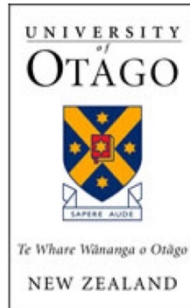


University of Otago



## Using ArcGIS Story Map to Communicate an Emotive Topic: Responsible Cat Ownership in New Zealand

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## Abstract

This thesis examines how the general New Zealand public can be engaged with the controversial idea of responsible cat ownership by using ArcGIS Story Map as a tool. Cat management is a vital part of achieving New Zealand's goal to be predator free, however it is a highly emotive topic, making it difficult to get the general public engaged. A transmedia approach combining multimedia, narratives and personal perspectives may provide an effective platform for increased engagement.

The thesis reviews the effect of cats on wildlife from a New Zealand perspective as well as what responsible cat ownership consists of, and ways that this can be best communicated to the public (Chapter One). Principles of positive storytelling, use of personal stories as well as approaches like immersive scrolling and infographics are explored in relation to the ArcGIS Story Map application as a potential online communication platform (Chapter Two). The design and implementation of a Story Map about responsible cat ownership is the creative component of the thesis, which is described with a critical reflection on its construction (Chapter Three). This thesis concludes by examining how cat owners and conservation professionals responded to the Story Map on responsible cat ownership, and evaluates its functionality, inclusiveness and coverage of the topic (Chapter Four).

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## Table of Contents

<b>Abstract .....</b>	<b>II</b>
<b>Acknowledgements .....</b>	<b>III</b>
<b>Introduction .....</b>	<b>1</b>
<b>Chapter One:.....</b>	<b>3</b>
1.1 Cats in New Zealand.....	3
1.2 The Impact of Cat Predation on Native Wildlife .....	4
1.3 Terminology surrounding Companion, Stray and Feral Cats.....	6
1.4 Value and Welfare of Companion Cats .....	7
1.5 Best Practise for Communicating Emotive and Controversial Topics .....	9
<b>Chapter Two: .....</b>	<b>11</b>
2.0 Positive Framing .....	11
2.1 Persuasiveness of Personal Stories .....	12
2.2 Transmedia Platforms and Graphic Information Systems.....	14
2.3 Scrolling as a way to Increase Engagement.....	15
<b>Chapter Three:.....</b>	<b>19</b>
3.1 Responsible Cat Ownership in Relation to Predator Free 2050 .....	19
3.2 Story Map Focus .....	21
3.3 Benefits of the ArcGIS Story Map Platform .....	21
3.4 The People Involved: .....	23
3.4.1 Rhys Millar and The Last Cat Families .....	23
3.4.2 Wellington SPCA.....	24
3.4.3 Elton Smith and Orokonui Ecosanctuary .....	25
3.4.4 Helen Beattie.....	25
3.4.5 Ana Andrianova .....	25
3.4.6 Helen Bachari.....	26
3.5 Navigation.....	26
3.6 Stories within the Story Map .....	27
3.6.1 The Predator Free NZ Story .....	27
3.6.2 The Desexing Story.....	33
3.6.3 The Microchipping Story .....	39
3.6.4 The Containment Story .....	43
3.6.5 The Last Cat Story .....	45
3.7 Story Order .....	47
3.8 Obstacles in Story Map Creation .....	47
<b>Chapter Four .....</b>	<b>50</b>
4.0 Consultation for Cat Owner's and Conservation Professional's Opinions on the Responsible Cat Ownership Story Map.....	50
4.0.1 Consult Groups: Cat Owners .....	50
4.0.2 Consult Groups: Conservation Professionals .....	51
4.1 Unsolicited Social Media Opinions.....	53
4.2 Data Collection and Coding .....	53

<b>4.3 Results:</b> .....	<b>54</b>
4.3.1 Functionality of Story Map Resource: .....	54
4.3.2 Coverage of topic:.....	60
4.3.3 Inclusiveness of Narrative.....	67
4.3.4 Opinions about cat ownership:.....	68
<b>4.4 Unsolicited Facebook comments.....</b>	<b>73</b>
<b>4.5 Limitations of Consultation Process.....</b>	<b>77</b>
4.5.1 Viewing the Story Map on Mobile Devices.....	77
.....	79
4.5.2 Interpretation of Questions and Reading of Complete Story Map .....	79
<b>4.6 Future Communications.....</b>	<b>80</b>
<b><i>Conclusion</i> .....</b>	<b>82</b>
<b><i>References:</i>.....</b>	<b>84</b>
<b><i>Appendices</i> .....</b>	<b>94</b>
<b>Appendix A: Ethics Approval, Ethics Forms and Information Sheets .....</b>	<b>95</b>
<b>Appendix B: Participant Answers (Cat Owners).....</b>	<b>102</b>
<b>Appendix C: Participant Answers (Professionals).....</b>	<b>120</b>

## Introduction

New Zealand is the home to fauna which evolved in isolation from mammalian predators. When invasive mammals arrived, the natives were ill-equipped to deal with their predation techniques. The responsibility to save these threatened native species falls on the humans that created this problem. Cats (*Felis catus*) contribute to predation on our native species. Unlike other introduced mammals, because they are often much loved pets it is difficult to approach the subject of cat management. A less confrontational way to do this may be to focus on increased cat welfare as a benefit of management, rather than the standard focus on the negative impacts that cats have on the environment.

This thesis documents the construction and evaluation of an ArcGIS Story Map created with the aim of promoting responsible cat ownership in New Zealand. Specifically, I describe the crafting of the stories featured in the map, including both textual and multimedia, as well as the physical Story Map web platform. The resulting Story Map was then evaluated by cat owners and conservation professionals, and I discuss the methodology of assessment as well as results in relation to future communications about emotive and controversial topics like cat management.

The first and second chapters review literature about cats, and ways to communicate the negative impact they have on New Zealand's native wildlife. I address the New Zealand problem of cat predation and the impact that cats have on wildlife, as well as how terminology regarding cats differs across different communications. It is important that communication about cat management does not alienate cat owners, and that cats are recognised as sentient animals, therefore I discuss the welfare of cats and the value they hold for people. I then address ways to communicate cat management that engages with cat owners. This includes using techniques, such as positive framing, characters and personal stories and avenues, that allow these techniques to be implemented. As an example of the latter, the ArcGIS Story Map platform is described, with particular attention to features like

immersive scrolling, infographics and videos that can be used to increase engagement.

The third chapter explores the creation of the creative component of this thesis, the ArcGIS Story Map about responsible cat ownership. This chapter discusses the decision-making process of its construction and how the end product was created. The fourth and final chapter then evaluates the Story Map through the experiences of cat owners and conservation professionals with the Story Map. A survey was sent with the Story Map link and responses were coded into themes for both qualitative and quantitative analysis. The chapter discusses these results and recommendations for the future communications on this subject and other emotive and controversial topics.

## Chapter One:

### 1.1 Cats in New Zealand

Free-roaming cats prey on native wildlife in New Zealand and around the world but management options surrounding cats are met with varying, often extreme views, from the public. The main problem arises when cats are not desexed and are allowed to prey freely on wildlife and left to breed uncontrollably. The New Zealand SPCA currently takes in over 7,000 unwanted kittens a year (Wellington City Council, 2017). This number does not include those cats which do not get caught and handed in. Their kittens will grow up wild and, not desexed, will go on to reproduce, perpetuating the problem. Roaming cats will normally have two litters per year, but can produce three (Spotte, 2014). When kept in a laboratory setting, adult females gave birth to an average of nine kittens in two litters each year when observed for ten years. (Robinson and Cox, 1970). Nutter et al (2004) found from a sample of 334 pregnant stray cats, the average number of litters for a female cat was per year was 1.4.

It is not just feral or stray cats creating the problem, as some cat owners choose not to desex their cats, which also readily mate and breed. Free-roaming cats can cause many issues for the people living around them, including spraying, defecation, attacking pets and other nuisance behaviours (Gunther, Raz, Berke & Klement, 2015). These behaviours are worse when the cat is not desexed. It is frustrating for people that they cannot do anything to stop these cats coming onto their properties and often, into their homes. If there are solutions, they are often costly or not socially endorsed. A study by Gunther, Raz, Berke & Klement (2015) found strong effects of cat reproductive rates on cat-associated nuisances, cat welfare and also public health threats, showing that free-roaming reproductive cats cause more nuisances to people than desexed ones.

New Zealand is particularly susceptible to the effects of cats at an ecosystem level, as it is an island group naturally devoid of most mammalian predators. Many of its native birds are flightless, live close to or on the ground and are vulnerable to humans and other introduced animals alike. As many as a quarter of the native



bird species have gone extinct since humans arrived around 700 years ago (Russell, Innes, Brown & Byrom, 2015). Cats are a popular choice of pet, with as many as half of New Zealand households owning one cat or more (New Zealand Companion Animal Council Inc, 2011). This poses a problem, as not only are there high densities of cats, but this is likely becoming higher due to lack of desexing. Cats in urban areas are often supplementarily fed (whether they are companion cats or strays) and this results in a lack of population fluctuations that would occur in a normal wild animal population (Van Heezik, Smyth, Adams & Gordon, 2010). This explosion in numbers means that cats can easily prey on animals, and potentially drive them to extinction.

The problem of supplemented feeding pertains particularly to stray (semi-owned) cats, as often people take pity upon them and feed them. However, feeding stray cats increases their survival and therefore, reproduction rates. When cats are strays this means that some but not all their needs are met by humans; people often feel like it is not their place, responsibility or their legal right to desex the cats they feed (Toukhsati, Bennett & Coleman, 2007). In a survey about peoples' opinions about cats and dogs and their actions towards them, it was found that while 93% of semi-owners would feed stray cats, only 20% of them had desexed the cats they were feeding (Toukhsati, Bennett & Coleman, 2007).

## 1.2 The Impact of Cat Predation on Native Wildlife

There have been many studies where scientists have speculated the population effect that cats, as predators, have on the species that they prey upon. Loss, Will and Marra (2013) suggest that free-ranging domestic cats kill around 1.3-4 billion birds a year in the USA. Lepczyk, Mertig and Liu (2003) found that free-ranging cats preyed on at least 12.5% of the known breeding bird species, and a cat, on average, would kill between 0.7 and 1.4 birds in one week. These numbers are hard to arrive at, as a lot of studies that have looked at cat predation rely on the cats bringing in all prey caught, and the owner reporting prey catch accurately. These results are never 100% accurate, as the cats may eat their food away from home, or the owner may not see or decide not to record a catch. The one thing that all these studies all seem to agree on is that their results likely are underestimating

the number of prey and thus the impact that these cats are all having on the environment around them.

There needs to be more research into the effects that cats have on New Zealand in particular, as New Zealand's ecosystem differs to other countries where much of the research is being carried out. In New Zealand, the native species evolved without any mammalian predators, and so are easily targeted by introduced predatory mammals, especially cats. Cats fill the top apex predator role in New Zealand.

There have been some studies done in New Zealand about cat predation. Van Heezik, Smyth, Adama and Gordon (2010) carried out a study in Dunedin, New Zealand to see what and how many animals cats preyed on in a urban area. While these results are also probably an underestimation of the actual kill rates, they found that there was a total of 1887 prey victims brought back over twelve months by 151 cats (Van Heezik, Smyth, Adams & Gordon, 2010). Another study looked at cat predation in two Auckland suburbs and found that the 80 cats in their study brought back 1674 items of prey. The main type of prey in this study was rodents in one suburb and invertebrates in another (Gillies & Clout, 2003).

Studies show that cats are opportunistic hunters, and will often take prey based on availability, rather than seeking out a particular species (Dunn & Tessaglia, 1994). There are arguments that cat predation can decrease rat populations. However, Parsons, Banks, Deutsch and Munshi-South (2018) found while cat presence resulted in less rat sightings, the rats only changed their movements to avoid the cats and their population numbers stayed the same. This could explain why cats are perceived as valuable rat predators. Even if cats were proven to help control rat populations they also prey on native bird, reptile and insect species, many of which are under threat. New Zealand will have to think of the impacts that cats will have as Predator Free 2050 comes into effect. Predator Free 2050 is New Zealand's goal to eradicate the most damaging introduced predators, targeting eradication of rats, possums and stoats by 2050 (Department of Conservation,

Unknown). As predator control measures are used to control rats, what will these cats begin to feed on, as the rat numbers begin to decline?

### 1.3 Terminology surrounding Companion, Stray and Feral Cats

One of the factors that is hindering effective communication about the impact of cats on wildlife and best practice for managing them, is the lack of clear terms to describe types of cats. Different studies use varying terms to describe the type of cats they study (Farnworth, Dye & Keown, 2010). For example in a paper by Cove et al., (2018) they use the terms feral, semi-feral and house cat. There is no mention of stray cats in this study, instead the term semi-feral is used.

The terms I have used to describe types of cat in this thesis are taken from the National Cat Management Document (National Cat Management Strategy Group, 2017) which in turn have taken their definitions from New Zealand Ministry for Primary Industries. They differentiate cats into three main categories: feral cats, stray cats and companion cats. Feral cats have none of their needs provided by humans, and often live away from areas of human activity and can be the target for active trapping for pest control. Stray cats exist around human populations, and have their needs met indirectly, through scavenging, seeking shelter around human establishments etc. Stray cats can then be divided into two separate groups, managed and unmanaged strays. These groups are categorised by whether humans are responsible for some of their livelihood. Managed strays include those cats where someone may feed the cats, and they may be desexed and returned to the colonies. They can also be tamed social and unsocial cats depending on how receptive they are to humans (National Cat Management Strategy Group, 2017). Companion cats are cats who live with humans as a pet, and are completely dependent on humans to survive. It is important that these terms must be used consistently when describing cat management, so that the public know what type of cat is being targeted for management and what that means for their companion cats or managed strays. Also, if feral cats can be talked about as a pest, rather than associated with stray and companion cats, then people might also be more open to trapping programs (Farnworth, Campbell & Adams, 2011).

#### 1.4 Value and Welfare of Companion Cats

Cats are a difficult topic to approach in terms of management as framing them in a negative light in relation to the harm they do to biodiversity and ecosystems makes people sensitive about a species that can also be their pets. Cats give humans many benefits such as pest control, companionship and entertainment (Allen, Shykoff & Izzo, 2001). It is important to recognise the value that pets bring to people's lives, which can have added benefits like helping with mental and physical health. It has been shown that when people in high pressure jobs owned pets, their blood pressure was lower and their mental stress less compared to people who did not own a pet (Allen, Shykoff & Izzo, 2001). This study showed that people felt their pets allowed them to put their problems into perspective and see what was important in their lives (Allen, Shykoff & Izzo, 2001). It has also been shown that having animals in a hospital setting can help people feel less alone, sad and stressed. Companion animals provide a distraction, give people someone to talk to without feeling judged and add an element of normality to the experience of being a patient (D'Arcy, 2011). It is important that the value of cats is taken into consideration when carrying out communication about cat management, as they are a valuable asset in many people's lives. If this is not recognised then it will be harder to persuade cat owners of the value of stray and feral cat management as well as actively managing their pet companion cats' activity.

Hall et al (2016) found that cat owners in New Zealand and Australia are more opposed to cat regulations than other countries such as Japan. They suggest that using welfare arguments are a valid alternative approach to promoting responsible cat ownership. Communicators can use welfare in this way as most of these management measures that help wildlife also improve quality of life for cats. For example, outdoor cats are subject to many dangers, including diseases. FIV (feline immunodeficiency virus) is spread through cat saliva, so can be contracted from bites and scratches from infected cats. When cats are not desexed, it causes them to be more aggressive and roam further from home, resulting in a higher chance of contracting and spreading FIV, especially if they are a male cat. This is another way that desexing cats can improve their welfare (Luckman & Gates, 2017).

Outdoor cats of any kind can also be a nuisance to community members and their properties. They cause damage by spraying and defecating as well as vocalising and fighting with other stray and domestic cats. In a study in Israel, there were 90,616 complaints in the years from 2007-2011 about roaming cats (Gunther, Raz, Berke & Klement, 2015). This shows what an issue cats can become when left to breed and contribute to a large stray population, especially in urban areas. There have been reports of nuisance cats being killed or harmed by annoyed or angry neighbours, so this also presents itself as a danger to outdoor cats of any kind (Olley, 2018).

In addition to contracting diseases, the likelihood of getting run over by a car reduces an outdoor, roaming cats life expectancy. In the USA, a free-roaming cat has a life expectancy of three years as opposed to twelve years for an indoor cat (Gaby, 2014). A study conducted in Wellington, New Zealand followed domestic cat movement by attaching cameras to the cat's collars. While predation rates were not terribly high (likely caused by the obvious cameras swinging from the cats necks) the cats were found to exhibit a lot of risk behaviours while roaming outdoors (Gaby, 2014). These behaviours included climbing to heights, entering crawl spaces, crossing roads and encountering unknown cats. All the cats that were surveyed carried out at least one of these risky behaviours during the study (Gaby, 2014). People valuing their companion cats may be expected to be more inclined to keep cats contained or indoors if they were aware of the risks that roaming can bring. A study by Harrod, Keown & Farnworth (2016) surveyed peoples' attitudes towards cats and collars and found the 50% of owners stated that the felt their cat was safe while free-roaming, which could indicate that they are not fully aware of the dangers their cats face while being outdoors (Harrod, Keown & Farnworth, 2016).

Desexing and microchipping cats is important for cat management in New Zealand in order to decrease the number of cats roaming and also to help identify when a cat is a feral, stray or companion cat. It was found that in the Christchurch Earthquake in 2011, that over 80% of animals that had a microchip were reunited with their owners (Wellington City Council, 2017).

Collars are also beneficial from a cat welfare perspective, as it shows the cat has an owner and can help identify who the owner is. Anti-predation measures for cats, such as bibs, bells and collars can reduce the rate of cat predation. When belled collars were put on actively hunting cats their predation on bird species was reduced by half (Gordon, Mattaei & Van Heezik, 2010). It is assumed that this is because it allows the prey to be alerted of nearby cats, who normally use ambush attacks to catch prey.

It is important to understand the impact that socio-economic factors have on cat welfare and management. Often it is in low social-economic areas that an abundance of stray and/or un-desexed cats is concentrated. Finkler, Hatna and Terkel (2011) found that neutering rates were lower, and pregnancy rates of cats were higher in lower socio-economic areas. They also found that female cats that were desexed in these areas had a higher level of the stress hormone cortisol in their system than those that lived in higher socio-economic areas (Finkler, Hatna & Terkel, 2011). Desexing and other management schemes need to cater to those socio-economic areas who are most at risk of poor management.

### 1.5 Best Practise for Communicating Emotive and Controversial Topics

A paper by Courchamp et al., (2017) looked at ways that invasion biology can be better communicated to the public. They believe that economics and social studies need to be included in communications, as well as ecology. They also suggest the need to standardise definitions, create a dialogue and advise that communicators avoid warlike or authoritarian language. They remind us that is not peoples' lack of understanding that causes them not to accept something (Courchamp et al. 2017). Cat owners may be aware of the effect that their cats have but other factors will be effecting their decisions. It is difficult to communicate about the management of invasive species because while other conservation and biodiversity work can be improved by positive factors, such as planting trees, managing invasive species requires people to kill one type of animal to protect another, putting more value on one life than another (Courchamp et al, 2017). People also fail to engage in management of invasive species because they feel it is not the species fault that a species has moved out of their original habitat, which may be true, but does not

change that there is a problem (Courchamp et al, 2017). In New Zealand it may be important to stress the role of ecosystems and evolution within communications about invasive species management, so that people can understand why these predators are causing such a problem here (but not necessarily elsewhere).

There is hope for public support of invasive species management in New Zealand. A study by Fitchman (2007) carried out in the Waikato of New Zealand, revealed very positive attitudes towards conservation and that both the protection of native species and natural areas, and pest control were the most widely recognised actions associated with conservation. Younger people were found to be more likely to strongly agree that protecting nature makes a difference to their lives and that natural places are important to them (Fitchman, 2007). This is a positive result if New Zealand is to work towards a pest free country, and could help change attitudes and views towards management of particularly complex invasive predators like cats.

## Chapter Two:

As discussed in the first chapter of this thesis, there is a need to communicate about the issue of cats and their impacts on New Zealand's environment, especially in relation to Predator Free 2050.

### 2.0 Positive Framing

Cat management is a difficult matter to communicate in New Zealand as it is a highly emotive topic, and can be met with hesitation by cat owners. One way to potentially convince cat owners about the ideas behind responsible cat ownership as part of management is through the use of framing. Framing is a type of context manipulation (Fagley and Miller, 1990). By positively framing elements of responsible cat ownership, such as desexing and microchipping, they may become more appealing to cat owners. A study by Whittemore and BenDor (2018) found that when they presented people with positivity framed statements about higher density development that respondents' perception of the development improved. This is often a controversial topic as well as it impacts peoples' living situations and communities. They concluded that framing may not be enough to change attitudes, but it could encourage people to see benefits that they may have been otherwise unaware of.

Another controversial topic which is challenging to communicate is low-carbon technologies in the attempt to combat climate change. A study by Vries (2017) looked at how positive framing in relation to this topic could affect participant's attitudes. This is similar to approaching the topic of pest management as both are often opposed by the public, and this opposition can cause disruptions in programs being carried out. For example, a petition to prevent the culling of Tahr, an invasive species, reached over 20,000 signatures in New Zealand in 2018 (Walls, 2018). Vries (2017) highlighted the importance of not purposely excluding all negative consequences and elements of programs from communications. Once people learn more information about the topic they may suspect that negative claims were strategically left out from the original communications. This will make people feel manipulated and may trigger people to feel as though they have lost



their freedom to make up their own minds about the issue. Instead, people feel less manipulated when they are presented with balanced articles that present multiple sides of the argument. This is applicable for cat management communications, as often the pro cat argument is that the Department of Conservation or Predator Free New Zealand are swaying the argument to make cats look worse than they are. It could be possible that by creating more positive communications about the benefits of cats, while also showing the potential for harm that they have, that cat owners may feel less manipulated and more open to higher levels of management of their pets.

A review of health studies that used positive and negative framing to explain health decisions, found that positive framing could lead to a more positive perspective of the effectiveness of different health treatments (Akl et al, 2011). However, it did not lead to a change in people's behaviour overall. It was found instead that gain framing was more effective for persuasion. In gain framing participants are presented with a message where you either gain or lose something from what is implied e.g. 75% chance of living with this treatment vs a 25% chance of dying with this treatment (Akl et al, 2011). This review highlights that it is not enough to assume that people having a greater understanding of the information will lead to a change in perception or behaviour in respondents (Akl et al, 2011).

Positive framing of cats in cat management communications could allow cat owners to become more open towards cat management. This needs to be done in a way that does not result in cat owners feeling manipulated by the communications or like they are losing the ability to make their own decisions about their pets. When seatbelts were required to be worn by law it was found that the behaviour of wearing a seatbelt was associated with positive attitudes about the change of rules (Steptoe et al, 2002). If cat owners feel positive about cat management then it is likely that behaviours such as desexing and microchipping will be encouraged.

## 2.1 Persuasiveness of Personal Stories

Story telling is one of the most important parts of human life, allowing an understanding of people and the world around us (Lewis, 2011). Humans live narratively in their normal daily lives but also through our entertainment such as films and books (Lewis, 2011). Storytelling can be a vital part of communicating ideas as it encourages people to understand things differently to how they may have before (Kaye and Jacobson, 1999). Stories are told by someone, then listened to and understood by the audience. This understanding of the story is shared within groups to gain a wider perspective and understanding of the topic of the story (Kaye and Jacobson, 1999).

Personal stories can help people to look at things in a different way and can change their perceptions and attitudes towards others (Baskerville, 2011). A study by Baskerville (2011) found this when they brought together students from different cultures and got them to tell personal stories. The students began to relate to one another more and compare others' experiences with their own lives. This helped to illustrate both similarities and differences between students' upbringings due to their culture. Telling stories together also helped students to open up to one another and be more vulnerable within the group.

Personal stories could be a way for cat owners to get a different perspective on what it means to be a responsible cat owner. This could either be through sharing their own experiences or by reading about other people who are involved in the cat management world and how irresponsible cat ownership affects them personally. This would allow them to see things from a different perspective. For example, a story from a rescue organisation about stray kittens could cause a backyard breeder to see things from a different perspective and may encourage them to desex their companion cats.

It has been shown that personal stories can help people in other situations as well. Cain (1991) wanted to understand how telling personal stories could help aid recovery for Alcoholics Anonymous. They found that stories helped people to create new identities and could be used as a tool for self-understanding. This could also be applied to people who own cats. Some people may have cats in their home

but not identify as a 'cat owner', but by telling stories, they may identify more with that role. This could make them more open to hearing about responsible cat ownership as it would apply to their cat owner identity.

Who tells the stories will also make a difference to whether people are open to taking new ideas on board. Whitemore and BenDor (2018) found that more highly educated people were more likely to trust messages about higher density infill developments from their peers, who also had a higher education level than from other people. They found that the unemployed and retired people in the community were more likely to listen to others if they were from the same community as them, as opposed to an urban planner. This means the best people to tell stories about cat management are people from the community, rather than a higher authority figure, as this may make people less likely to take their ideas on board.

## 2.2 Transmedia Platforms and Graphic Information Systems

Transmedia communication is using multiple media to represent a narrative or experience in a way that engages learners by making the story personal to them (Raybourn, 2013). One potential approach for making a transmedia digital platform is through ArcGIS Story Maps. Story Maps are a selection of apps which can be used to create and showcase maps and multimedia material. Story Maps can be used to show a large data set in an easy to understand and interactive way. Readers of Story Map can interact with the content by selecting different tabs, scrolling, watching video and through the maps. The author can include map notes and link to URL pictures for the reader that display on the data points. The reader can also scroll to zoom in and the content and location on the map can be altered, while the data points themselves can also be interactive. Maps also can create a theme or a story through the use of geospatial data, photos, video, graphics and text (Scott, Edwards, Dayan, Nguyen and Cragle, 2016).

There are different apps within Story Map that can be selected depending on which type of data you are displaying. For this thesis I focused on two particular app types, Map Series and Cascade. Map Series is an app that provides a template

which allows the author to present a series of maps, photos or other, through a series of tabs, numbered bullets or scrolling side bar. The Story Map website encourages users to use the Cascade app if they are trying to tell a narrative story, as it follows a liner model and has various media showing up as the reader scrolls down (Evans, 2016).

An added benefit of the Cascade app is the ability to include 'immersive sections' within the narrative. ArcGIS describes this as "full-page media views that lock into place, with narrative panels that float over the media" (Evans, 2016). This immersive section within the app is also known as parallax scrolling, which is when something in the front of the image moves faster than the back of the image (Fredrick, Mohler, Vorvoreanu and Glotzback, 2015). This helps to add the illusion of depth to the reader.

### 2.3 Scrolling as a way to Increase Engagement

Scrolling is becoming more common with internet use, due to the high consumption of social media sites which use this technique. It provides a more passive way of loading new media that encourages users to stay on the page due to a large or never ending stream of content (Springer, 2015). Social media especially will normally begin loading more content once a user gets close to the end of the page (Springer, 2015). However, infinite scrolling can confuse readers and cause them to become lost on the page, meaning they can be likely to navigate away from the page if there are not 'sticky' bits that they can use to navigate (Springer, 2015). Cascade story map does not use infinite scrolling as there is an end point, however with large amounts of content, it could lead to similar problems as seen with infinite scrolling. Springer (2015) suggests that you should split your content up into paginated series, with sections split up to give readers a way to move away from the scroll but still be engaged with your content. Sections/bookmarks can be created within the Cascade app, and this gives the author the ability to create chapters within the story. This allows the reader some control over their navigation while still requiring them to scroll to read further down the story.

Story map also creates the opportunity to encode maps within one another. For example, you could encode a series of stories created with the Cascade app which can then be turned into a series of stories by encoding them within the Map Series app. Then the reader can click separate tabs and be presented with different material, meaning they do not get the infinite scroll effect from having too much information in one story.

As previously stated, the Cascade app uses a parallax scrolling style in its interactive segments. There has been little research into how parallax scrolling can influence user experience, however it is recommended that it is not used for goal-based websites, like booking websites (Frederick, 2013). Parallax scrolling allows the reader to control the viewpoint and how fast or slow content comes onto their screen. Ku (2015) examined the affect that websites using parallax scrolling had on overall user experience. Participants reported that they thought this type of scrolling would be best suited to narrative context. It was also reported that the movement helped to hold attention, and a participant with ADHD said that it helped them to stay focused. This study points out the importance of design. They state that while parallax scrolling can help the content to be visually and physically engaging, if the design of the website is not done well, then the scrolling will not be as effective (Ku, 2015).

The Cascade app encourages the use of their immersive scrolling sections in creating a Story Map, but does advise that overuse will impact the effectiveness of the Story Map (Evans, 2016). Other participants of Ku's study, (2015) study also encouraged the use of infographics to supplement the parallax scrolling, as both are easy and fun ways of getting complex information across. Infographics simplify data and help present it in an easy to understand way, in turn making it more likely that the information will be absorbed and understood by the reader (Ku, 2015). In addition to this, because the data makes more logical sense, the reader is more likely to pass along the message to others (Gordarn, Waite, Cooper and Butlera, 2018). If created in outside programmes, infographics are easy to include in the Cascade app as an uploaded photo image. Infographics are defined as "a visualization of data or ideas that tries to convey complex information to an

audience in a manner that can be quickly consumed and easily understood” (Smiciklas, 2012, pg. 3). The point of an infographic should be clear to the reader within 20-40 seconds (Gallicano, 2015).

Infographics are best used when it is obvious to the reader what is important in the data and if there is a narrative involved (Gallicano, 2015). The narrative can be told by picking certain elements of the data that highlight and explain the point being communicated (Gallicano, 2015). This can be achieved by using ratios or other similar math concepts to group data (Gallicano, 2015). Authors should aim to not be misleading and to include a link back to source material if possible (Gallicano, 2015).

As well as infographics, the Cascade app also gives the option for other media types to be uploaded onto the display. The options include photos, maps, text and videos. While all other media can be accessed by the reader by scrolling, videos cannot be automatically viewed by the reader. Videos can either be included in the narrative sections of the Cascade app, and the reader has to physically click on them to begin the video, or they can be included in the immersive sections of the story and they will auto play when the reader scrolls past them. The latter situation means the reader does not need to click to begin the video but they do need to click if they want the video to have sound. This is because web browsers have begun having stricter policies on videos that auto play with sound (Walshe, 2016).

Auto playing videos have been a growing trend on social media, and creators have begun to create videos in a format that compliments the initial silent play. The Martin Agency has data that shows that 94% of video ads on Facebook were viewed in silence (Maheshwari and Benner, 2016). In February 2016 Facebook introduced auto-captioning feature for videos so the message could still be received without sound (Maheshwari and Benner, 2016). It is important that if using the video feature within the Cascade app that videos are created with the idea that they may be viewed in silence or sound. The use of sub-titles could help to combat this problem.

ArcGIS Story Maps can be a highly effective platform to communicate narratives on. This is best done using the Cascade app, as it follows a linear format and allows the use of pictures, infographic, text, maps and videos. While Story Map was created for the use of telling stories with maps, apps like Cascade also lends itself to narrative stories with other media as well. Story Maps can be used to look at multiple issues and problems within a community.

Displaying data in stories allow those using Story Maps to understand relationships and the 'whys' behind spatial data. Kerski (2006) recommends that Story Maps are used to ask value based questions, rather than simply displaying data on a page. By understanding data better users can think analytically about whether these things should be happening. For example; 'should the Earth be changing in these ways, and is there anything we should do as a society about it' (Kerski, 2006). This can relate to cat management as after displaying data and stories about cat management, readers can ask 'should cats be having these effects on our environment and what can we do to change this for the better?'

## Chapter Three:

As previously stated in this thesis, the topic of cat management is a difficult one to communicate due to it being a highly emotive topic. I decided that an ArcGIS Story Map specific to New Zealand and explaining what responsible cat ownership meant and ways it could be implemented would be created in order to attempt to encourage cat owners to think more critically about how they manage their own cats. This Story Map needed to be positively framed in order for cat owners to be open to reading it and increase chances of their taking presented ideas on board. I also aimed to bring people and cats from communities to life to help place a face to some of the science concepts that people were against, for example, microchipping or containment.

### 3.1 Responsible Cat Ownership in Relation to Predator Free 2050

Cat management has been at the front of many people's minds since the Predator Free 2050 initiative was announced in 2016. Gareth Morgan created a website in 2013 called 'Cats to Go' which encouraged reducing cat numbers by euthanising and not replacing companion cats when they pass away (Radio New Zealand, 2013). These ideas have resurfaced in more recent years. Predator Free 2050 focuses on eradicating possums, rats and stoats in New Zealand (Predator Free New Zealand, 2018). However, there has been media coverage of New Zealand Conservation Minister Eugenie Sage stating that she believes there should be a government conservation plan to eradicate predators, including cats (Frykberg, 2018). While cats are not currently part of this initiative, the promotion around it has caused more conversations in the media about cat ownership and management.

In order for the public to get on board with Predator Free New Zealand, it is important that they have an understanding of our unique ecosystem and how invasive predators are impacting it. Therefore, the Story Map created in this thesis tries to address this in its first story, so that readers can see how cats may be effecting the wildlife around them and preventing it from thriving.



The Cat Management Strategy (National Cat Management Strategy Group, 2017) argues that responsible cat ownership includes two different elements. Firstly, people doing things voluntarily and secondly, by enforcement. The Story Map aims to encourage people to take responsibility for their pets voluntarily by offering solutions and viewpoints they may not have previously considered. From observations, it seems as though people are most opposed to controlling their cats when they are forced to do so, so controlling their cats on their own terms would likely be the more easily adopted form of management for conservation purposes.

When people are motivated to engage in conservation for reasons that are not part of their core values, like avoidance of monetary fines, this is known as heteronomous motivation (Decaro & Stokes, 2008). Cat owners having to keep their companion cats indoors to avoid fines would be an example of this, if the owner did not believe in keeping cats contained. However, economic factors are not the only way to encourage decision making in conservation (Nilsson et al., 2015). Between 2013-2015 the Auckland Council in New Zealand euthanised 16,666 dogs after they were impounded after their owners did not comply with dog ownership laws, which results in fines for the owner (Tokalau, 2018). Behaviours can be changed more effectively when strategies that promote community autonomy are undertaken. This is called autonomous motivation (Decaro & Stokes, 2008). This type of motivation encourages decision making in relation to values. Communicating responsible cat ownership through the lens of improving cat welfare aims to appeal to cat owners values surrounding their companion cats, rather than pushing economic incentives on them.

Responsible cat owners are described in the Cat Management Strategy as providing the majority of caretaking behaviours for their cats as well as acknowledging 'ownership' over the cat (National Cat Management Strategy Group, 2017). However casual cat owners may accept ownership but are less likely to commit to other behaviours like desexing, identifying and providing veterinary care (National Cat Management Strategy Group, 2017). By creating this Story Map, I hoped that it may encourage more casual owners to commit to other behaviours that will benefit their cat, their community and the environment.

Research has shown that people are more likely to be on board with recommendations like containing their cat if the campaigns promoting these ideas focus more on the increased welfare of the cats rather than the positives to wildlife (Toukhsati et al., 2012, Hall et al., 2016). My Story Map aims to follow this idea and primarily focus on the ways that responsible cat ownership can benefit the overall welfare of the animal. The increased benefits for native wildlife is mentioned in most stories, but is not the primary focus.

### 3.2 Story Map Focus

My Story Map focused on ideas that are mentioned in the Cat Management Strategy as part of being a responsible cat owner. This includes the subjects of desexing, identification and containing your cat. As explained above, the first story was included to give context to how cats can impact conservation in New Zealand. The last story about no longer owning a cat is included as this has been a topic that has been raised in the media and conservation groups. Unfortunately, the way they have gone about addressing this idea has caused a lot of backlash and controversy from the public and so the Story Map aims to address the idea in a more neutral and personal way, so that cat owners do not feel as though they have to take up this option, but can understand the benefits and why some people may.

Exemplification theory suggests that qualitative evidence from exemplar characters can be presented through stories and anecdotes (Gigerenzer, 1991). Qualitative data like personal stories have been shown to be more persuasive in health behaviour settings than quantitative data (Brosius and Bathelt, 1994). Exemplar messages allow people to group themselves together with other people similar to themselves (Zillmann, 2006). Providing examples of people carrying out responsible cat ownership behaviours aims to persuade cat owners to do the same in their own lives.

### 3.3 Benefits of the ArcGIS Story Map Platform

The Story Map platform was selected because the stories that were initially planned were geographically based. There were microchipping initiatives planned

for cats in several Otago communities, however the timeframe of these was not compatible with the timeframe of creation of the Story Map. I was planning to use the mapping element to show where these initiatives were going to be carried out in relation to New Zealand, and to possibly add in pop-up information about what was happening in each place before introducing the people involved. I also initially planned to use the data from the 'How Safe Is My Cat' study, that was done by the Beyond Orokonui group, to create maps showing cat roaming behaviour data which was collected through GPS collars (Beyond Orokonui, 2016). This data was provided to me as static map images, and so I decided to use these images instead of creating a new interactive map to show the same information. My Story Map only ended up using two maps, both to set the scene for the Orokonui story. While other Story Map apps are more useful with stories that include mapping, the Cascade app allows a narrative story to be told without a need for maps necessarily.

Story Maps are a useful platform for people to display their data, photographs, videos and written narratives. Authors can sign up for a free account which can be accessed on any computer due to its online nature (Walshe, 2016). This gives Story Map a larger accessibility than other programmes which authors have to pay for and download onto their computers. The ability to include multimedia strengthens the support of the emotional side of the story as well, as opposed to simply displaying scientific facts (Marta and Osso, 2015). Walshe (2016) found that Story Maps allowed teachers and students to engage with a range of digital media to explore themes, ideas and places more deeply. Story Maps also automatically update the maps used in the platform if they are changed over time so that your Story Map remains current without any extra work (Kerski, 2006). As explained in the previous chapter, using the Cascade app allows the reader to continuously scroll to access the story, as well as having the option for immersive sections in the story. This added to the narrative structure of the story. Readers had limited navigation but could click between different stories and then bookmarks within those stories.

As explained in the previous chapter, transmedia is using multiple media to engage learners by involving them in a story on a personal level. (Raybourn, 2013). Story Map allows the user to use varying forms of media to tell their story.

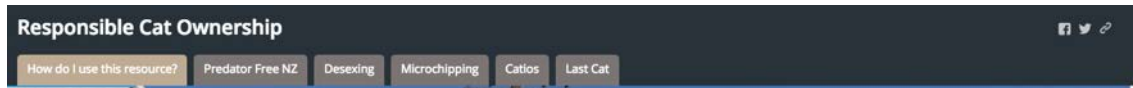


Figure 1: Sharing function found in Cascade Story Map (top right)

It is also easy to share Story Maps with others by using the share buttons available on the app (Figure 1). The sharing button provides a link to post on various social media sites, or embed the Story Map within a webpage. It also provides direct buttons which allow the reader to share to Twitter or Facebook. Being able to share stories online is important because it is argued that individual's behaviour is the product of their social network (Bandura, 1997). Social networks also include virtual communities, and so if people share this information with others then it will reach a wider audience and the information in this Story Map may become more widely accepted (Chiu, Hsu and Wang, 2006)

### 3.4 The People Involved:

It was important that the Story Map collected voices and stories from real people and that those people were recognisable from the community. As stated in the previous chapter, when a controversial topic is communicated by a community member or peer then their message is much more likely to be listened to (Whittemore and BenDor, 2018).

#### 3.4.1 Rhys Millar and The Last Cat Families

The project to create the Story Map began with the support of Rhys Millar, the coordinator of Beyond Orokonui and the Halo Project in Dunedin, New Zealand. The Halo project is involved in trapping invasive predators and planting native vegetation around the surrounding areas of the eco-sanctuary Orokonui (The Halo Project, 2018). Some other interviewees were recruited through his recommendation. Rhys does not feature as a character in the Story Map, however

the Halo Project is mentioned, including the study they conducted about 'How Safe Is My Cat' which is where the GPS tracking pictures were sourced from.

Rhys recommended including community members who have decided to no longer have cats. This was to give readers the option of not replacing their cat once their current one passes away, which is an idea that has been promoted in the media and in conservation in relation to cat management. For example, in 2018, news host Duncan Garner stated on The AM Show that cats needed to be phased out in order for New Zealand to be predator free (Newshub, 2018). Two families living in Otago who have chosen to not replace their pet cats were recruited via email and asked a series of questions over email. They provided photographs of themselves and their 'last cat'. Personal photographs put a face to the story and shows them as real people and part of the community. The mayor of Dunedin, Dave Cull, was also interviewed for this story via email. His interview adds a more familiar name to the story and may carry more weight in the community.

Rhys also recommended contacting a man who works trapping feral cats and examining the contents of their stomachs. This story was not followed through with however as I decided the Story Map should focus on companion and stray cats rather than feral, and I felt like this topic could possibly turn away cat owners from engaging with the Story Map, as it would have been very graphic.

#### 3.4.2 Wellington SPCA

It was also intended for the Story Map to follow the story of the Halo Project's microchipping initiative, based mainly in the Purakaunui area. I was going to interview cat owners about their experiences and thoughts about microchipping. This plan did not come into action unfortunately due to incompatible timelines with both projects. As an alternative, the Wellington and Dunedin SPCAs were contacted to help share stories of cats who had been reunited through microchipping. The Wellington SPCA shared a number of stories which were used. Unfortunately, the Dunedin SPCA didn't have any stories to share and so the microchipping story focused on the Wellington SPCA.

#### 3.4.3 Elton Smith and Orokonui Ecosanctuary

Elton Smith is the conservation manager at Orokonui Ecosanctuary. He was interviewed by me after a picture he posted on their Facebook page sparked a debate about cat ownership around the sanctuary. His perspective brings a conservation voice into the conversation. This helped provide an avenue for Orokonui and the Halo Project to be mentioned in the Story Map, after the microchipping initiative fell through.

#### 3.4.4 Helen Beattie

Helen Beattie was also interviewed. Helen is a qualified veterinarian, the ex-Director of Animal Welfare at the Otago SPCA and is now the Chief Veterinary Officer of the New Zealand Veterinary Association. She was included in the Story Map to provide a voice of a community member as well as an educated veterinarian. She provides the perspective of promoting cat management but also cat welfare at the same time. This makes her more relatable to cat owners as she is a less controversial figure than someone who is in a conservation role like a Department of Conservation worker, for example. By interviewing her, she was able to bring the welfare element into why responsible cat ownership was important due to her past roles as a veterinarian and working within the SPCA.

#### 3.4.5 Ana Andrianova

When Ana Andrianova, who founded Cat Rescue Dunedin, was interviewed I discovered that she had mixed feelings about cat management, however due to her role within Cat Rescue Dunedin she heavily promotes the desexing and rehoming of cats. Ana was interviewed for the story to help promote desexing as a part of responsible cat ownership. She will appeal more to cat owners as she is very 'pro-cat' within the management spectrum. She is also very active on the Cat Rescue Dunedin and other 'pro-cat' pages on social media so having her as a figure within the Story Map may make some more hesitant readers more open to the ideas presented if they recognise who she is.

### 3.4.6 Helen Bachari

Ana recommended speaking to Helen Bachari who adopted four cats from Cat Rescue Dunedin and built a large outdoor enclosure for them. Helen provides an example of how people can build enclosures to keep their own cats safe and also adds to the story with the characters of her five companion cats. The story mostly focuses on Baldur who was rescued as a kitten and lost her eye due to cat flu. By including other cats in the Story Map, I aimed to encourage readers to engage with the content due to cats' fun and captivating manner. Cats are a big part of internet culture, with over two million cat videos posted on YouTube as of 2014 (Marshall, 2015) By using an emotional story about a cat, I aimed to draw internet users into the story where they will then be exposed to the concepts in the Story Map. Being a cat owner and having an affinity for cats makes it more likely that people will engage in cat-related content online (Myrick, 2015)

### 3.5 Navigation

The first story was created to provide a space where readers could learn how to use and navigate the Story Map. In addition, this story provides a brief background of the affects that cats can have in New Zealand. This chapter includes screenshots of the Story Map. This aims to enable readers to easily understand what I am talking about when I reference things like the chapter bar (Figure 2) and the tabs.

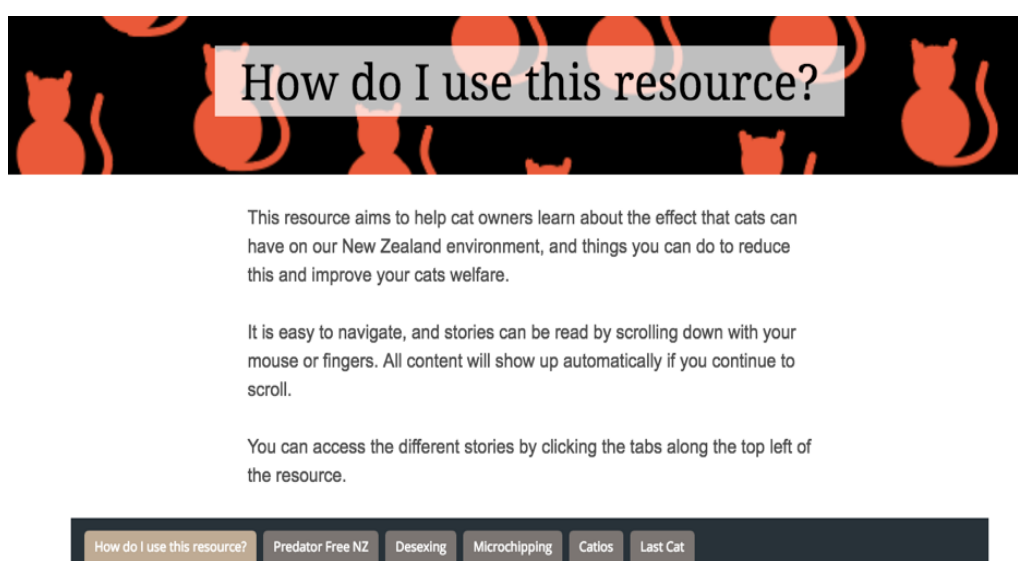


Figure 2: Navigation explanation

The first story also includes an 'about the author' section. I thought that by creating this it would help garner a higher level of trust from the audience. The about section clearly states why I created the Story Map and my positive thoughts about cats. Some cat owners can get very defensive if they believe information is coming from certain sources. Often on Facebook posts about cat management, Gareth Morgan, the Department of Conservation and Predator Free 2050 will be mentioned negatively in comment threads. Therefore, if I was seen to be as part of these groups then cat owners may be less likely to engage with the Story Map or for the information presented to be taken on board. By including myself, it will also link the Story Map with a named and credible source. A credible source is defined by media experts as someone who provides correct information and without bias (Hass, 1981).

### 3.6 Stories within the Story Map

#### 3.6.1 The Predator Free NZ Story

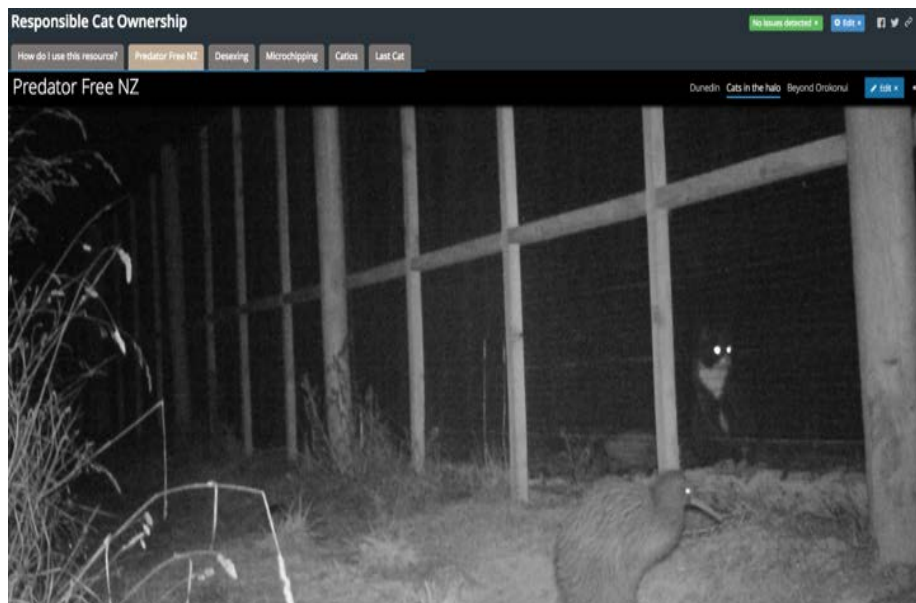


Figure 3: Photo of cat and kiwi at Orokonui Ecosanctuary

As stated earlier, it is important to explain ways that people can be responsible cat owners and provide some context to why there is a need for this in the first place. This story is split into three bookmarked sections. These are 'Dunedin', which sets the scene and introduces Orokonui, 'Cats in the halo' which introduces Elton and the photo of the cat and 'Beyond Orokonui' which talks about the work the Halo



Project is putting into restoring the habitat and how cats fit into this. The Halo Project story was initially going to be focused on the community and the actions they were taken, but as explained earlier this fell through. However, later in the year the Orokonui Facebook page posted a picture of a cat looking at a kiwi through the predator free fence (Figure 3), and this posed a good way to bring native wildlife into the Story Map stories.

Orokonui Ecosanctuary was mentioned to make native species seem more real and at danger to the reader. When people live in urban areas they are less likely to see native animals. This is especially true when there is no predator control. By using the Orokonui Halo as an example, it shows how these species could be introduced into more urban areas and why it is important that species like cats don't hinder these efforts. This also leads on to talk about Zealandia in Wellington, which has seen the effects of an overspill with kaka and other species beginning to live and breed outside of the ecosanctuary.

The story about Predator Free New Zealand begins by describing Dunedin, and then moves on to talk about the ecosanctuary. It was important that readers could understand how close these were in relation to each other, which helps spread the message that the birds in the sanctuary could one day be seen in the city. The maps of Dunedin and Orokonui help the reader see this and helps set the scene as well. As these maps are interactive, the reader can zoom in and out (Figure 4) and use the mouse to change the view so the proximity to one another is easy to capture.

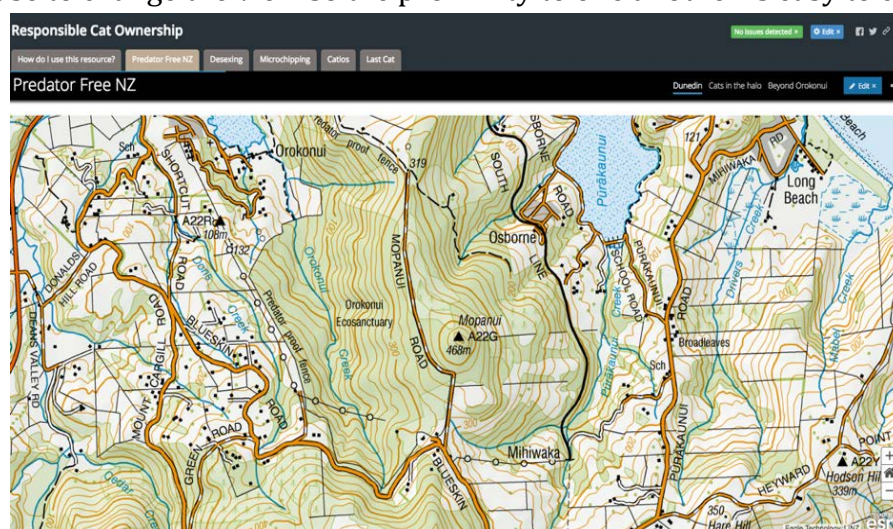


Figure 4: Example of zoom function (bottom right)

There are also pictures of iconic places around Dunedin to help set the scene for the reader. This helps people who know Dunedin feel a connection to the place as well. The story then moves on to talk about Orokonui. It explains where it is and how wildlife are protected by the predator-proof fence. There is a description of how the fence works and there is also a photo (Figure 5) so readers can easily see what the fence looks like.

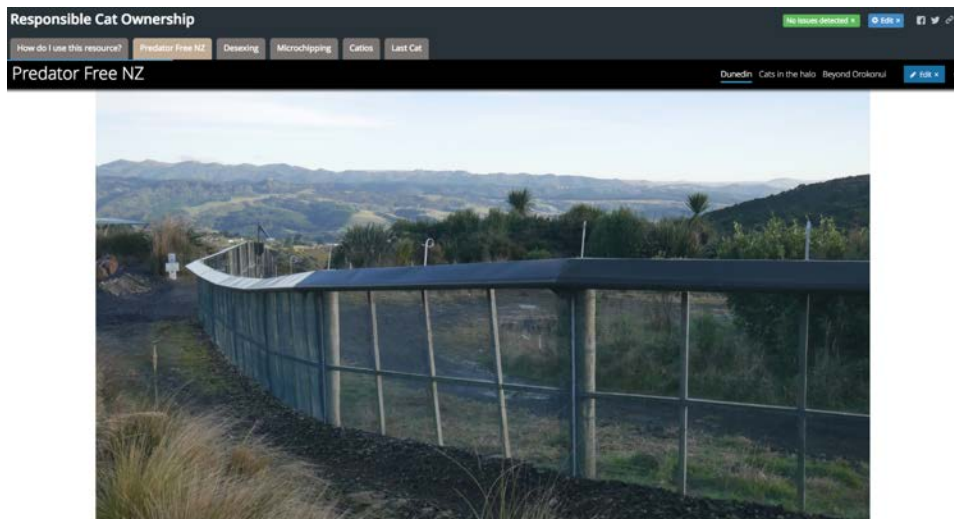


Figure 5: Photo of Orokonui's Predator Free Fence

Orokonui's vision, which is stated on their website, is then stated in a pull quote (Figure 6) to help it stand out from the rest of the text.

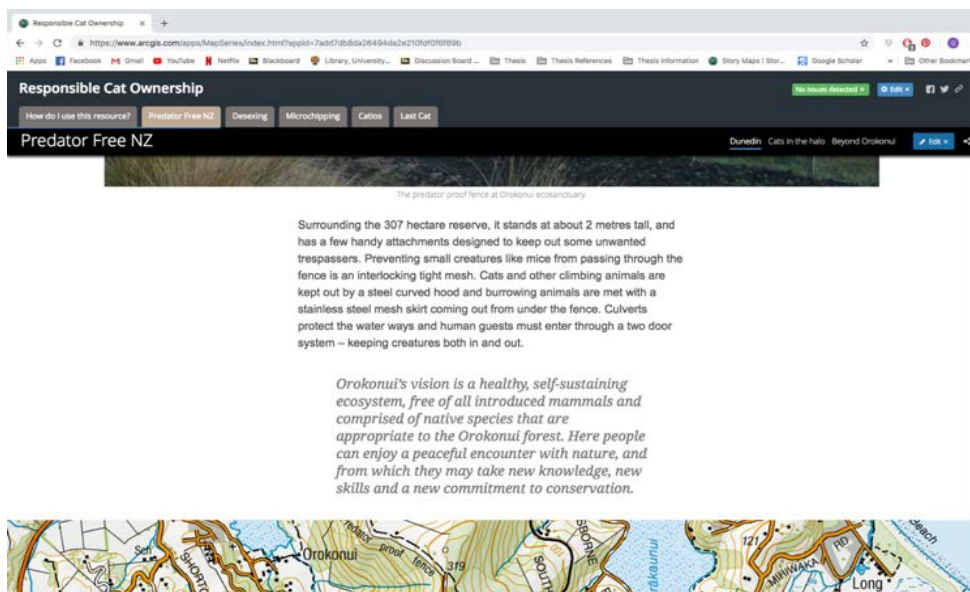


Figure 6: Pull quote used in Story Map

There are photos and video included of some common birds, like bellbird/korimako and tui which readers are likely to see in their garden and also some uncommon birds in the sanctuary, like takahē. These photos and video help bring the birds to life and hopefully will make the reader think about what their cat may be doing while roaming. I created this video (screen shot in Figure 7) with the intention of showcasing some tui and korimako feeding within the sanctuary. This exhibits their behaviour and shows the readers what it would be like to have these birds in their home gardens.

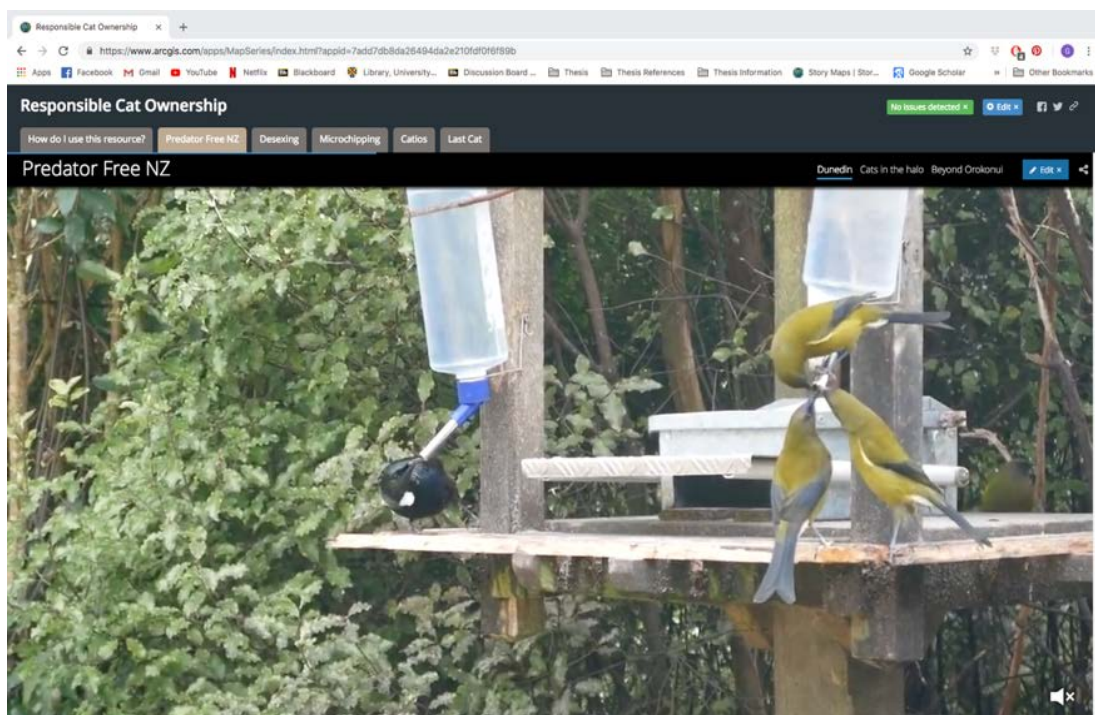


Figure 7: Screenshot of immersive video

Once the ecosanctuary was established in the story, it then moves to discuss the Facebook post of the cat and kiwi. It covers what people had to say and then what Elton thinks of cats being able to roam free near Orokonui. This photo of the kiwi and cat was placed in an immersive section (Figure 8) so the reader is forced to engage with the photo longer than they may with photos in the text sections. There is also a text box which pops up over the photo which discusses the photo that the reader is currently looking at. I made it so there was twice the number of immersive section for this (Figure 9) so the reader could engage with the picture first without text, and then again with text.



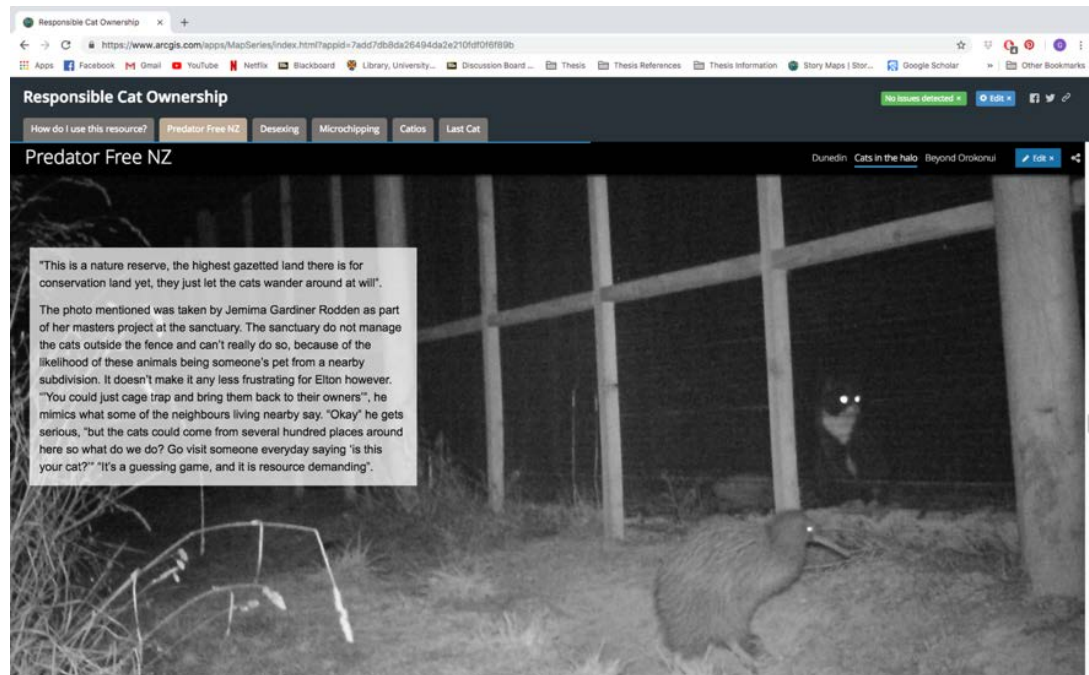


Figure 8: Reader view of immersive section

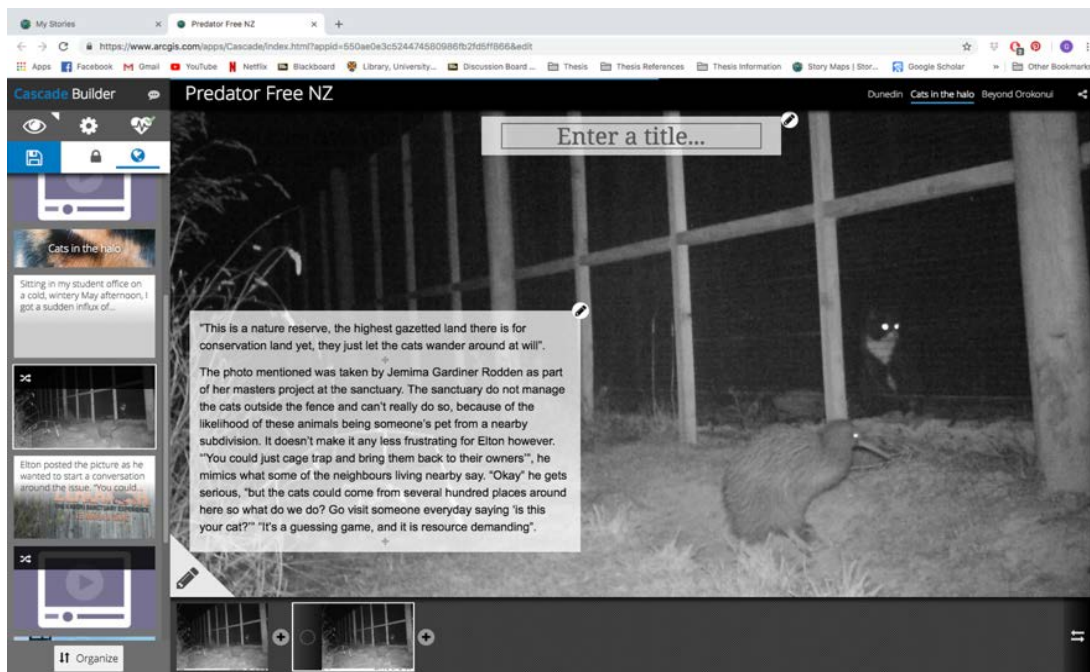


Figure 9: Author view of immersive section

As the reader scrolls down, the story moves from Orokoniui to Zealandia, the ecosanctuary in Wellington. Zealandia have a successful halo with kaka and other native birds breeding outside of the sanctuary. This part was included to show how cats can impact the animals who live in the sanctuary, as the end goal is to support their spread outside of the fence. People misunderstanding of the role of the fence was brought up in the Facebook comments on the post with the cat and

the kiwi, and so needs to be explained so readers understand the end goals of the sanctuaries. There is then an immersive video which shows wild kaka feeding outside of a residential property. This is to show how our native birds could eventually live with predator control.

This story then continues on to talk about the Halo Project in Otago. This was to help bring cats back into the conversation. The Halo Project conducted a study on cat safety around trapping. This study illustrates how people in conservation care about cats as well, and are doing research towards them and their behaviour in regards to conservation work (Beyond Orokonui, 2016). This section includes a map of the halo area, sourced off the Halo Project website. I was provided with images from the GPS tracking of the cats that were monitored in the study. These were obtained by attaching GPS collars to the participating cats. Four images were selected to display in the Story Map (Figures 10 and 11). Two of these were selected in order to show the potential size of home ranges in cats and another two to illustrate how often cats cross roads when roaming. Using four examples ensured that the photo size was still big enough that the reader could see the details in the maps. As stated above, these were originally going to be recreated through ArcGIS mapping but it was decided to stick with the original images instead as they already told the story that I was trying to tell.

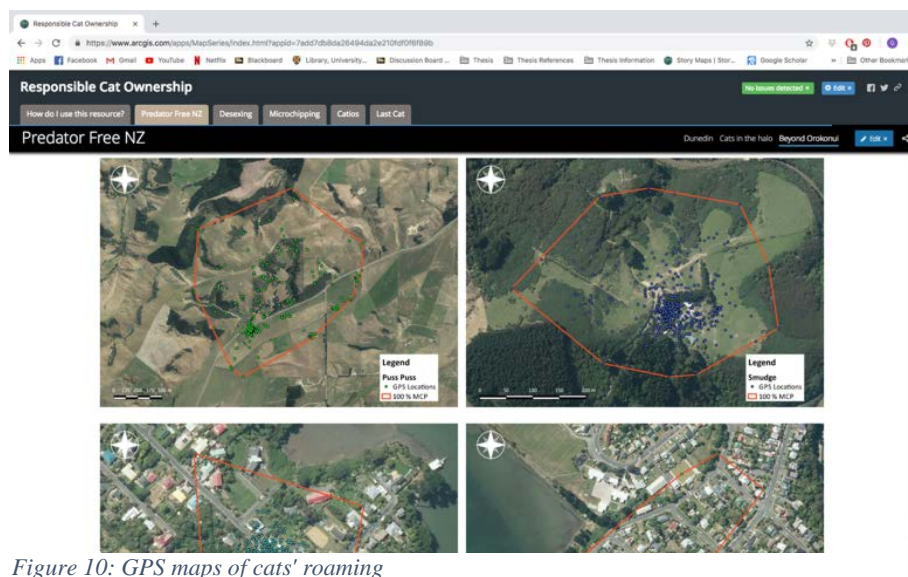


Figure 10: GPS maps of cats' roaming

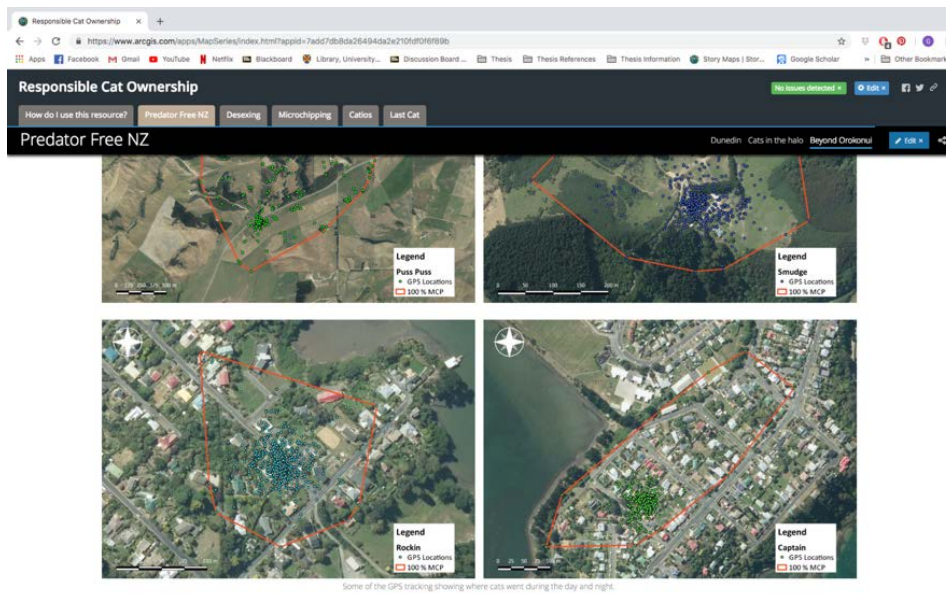


Figure 11: GPS maps of cats' roaming

The textual narrative goes into detail about what the study entailed and the results that were found. The results of the prey caught by the cats were turned into an infographic so readers could easily see how many animals were caught, and what proportion were birds, lizards or other. As explained in the previous chapter infographics are an engaging and easy way of presenting complex information (Smiciklas, 2012).

The story ends with a small paragraph in italics as a take home message. This format of an italicised paragraph is continued throughout the Story Map, helping to reinforce the message of the story.

### 3.6.2 The Desexing Story

This story aims to explain what desexing is and the importance of doing it. The story opens with a photograph of an intact male cat looking back at the camera. I selected this photo as it helps to illustrate the topic being discussed.

I begin the story by talking about my own experiences and how I initially was against desexing with my kitten that I adopted as a teenager. This story was used as it showcases how people can think that it is good or fun for cats to have kittens but can be educated about the effects and then change their mind. Like the 'about

the author' section, it also brings a personal feel to the story to help increase trust. Acedo-Carmona and Gomila's (2014) study results support the idea that personal trust increases cooperation compared to general trust. The photos help add truth to the narrative as they show the cats that are being discussed in the story. It will also help make the story more appealing to cat owners.

The story then moves on to explain what desexing is and reasons why it is a good idea. This section includes an infographic that I created to explain the differences between female and male cats and the disadvantages when they are not desexed (Figure 12). I created a cat character which is featured in two infographics. This helps to connect the graphics together. The cats can be differentiated by their pink and blue collars which also feature the symbol for female and male. The cats can be seen dreaming, with negative effects of intact cats floating above them in thought bubbles. This aims to provide an easier way for the audience to see the effects of desexing without having to read a dry list.

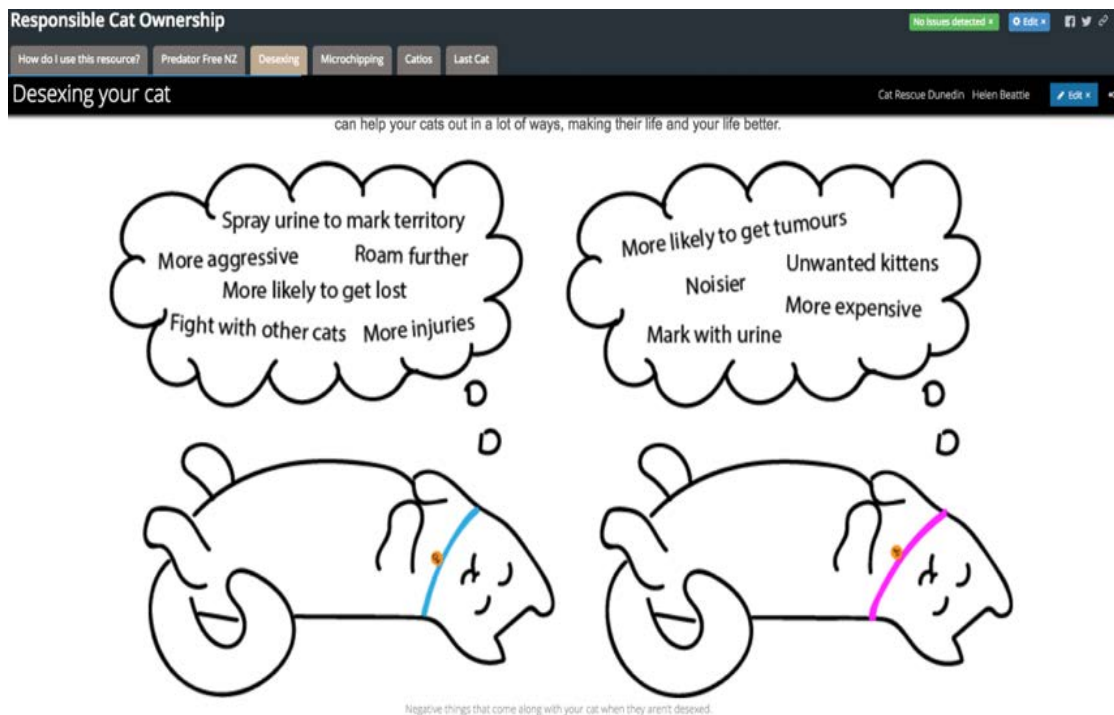


Figure 12: Infographic detailing negative effects of intact cats

The story then leads into two personal accounts of people who have dealt with the impacts of owners not desexing their cats. The banner of this section shows a cat behind bars, after it was taken to the local SPCA, to illustrate a rescue cat. The first



person interviewed is Ana Andrianova who is discussed earlier in this chapter. Her organisation rescues, desexes and rehomes cats every day and so she is a strong advocate for desexing your cat. There is a photo of Ana as well as the rescue's logo in order to make the story more personal and put a face to the name (Figure 13). The photo also shows Ana cradling a cat, which shows that she is positively affiliated with cats. The story also provides a link to the rescue page so that readers be directed here for more information. The story describes how many cats they have rescued in their three years in operation which is then followed on by an infographic.

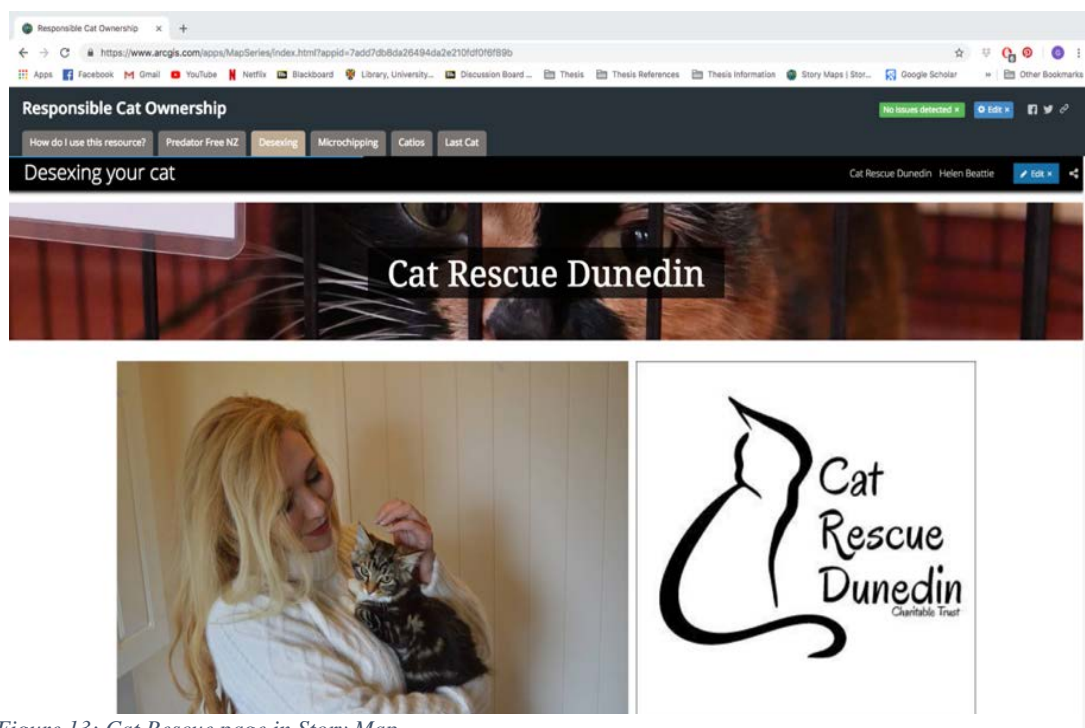


Figure 13: Cat Rescue page in Story Map

This infographic that I created shows the impact that one cat can have on the population over two years (Figures 14 and 15). It illustrates one cat having a litter of kittens, and then every kitten from that litter also having a litter of kittens.



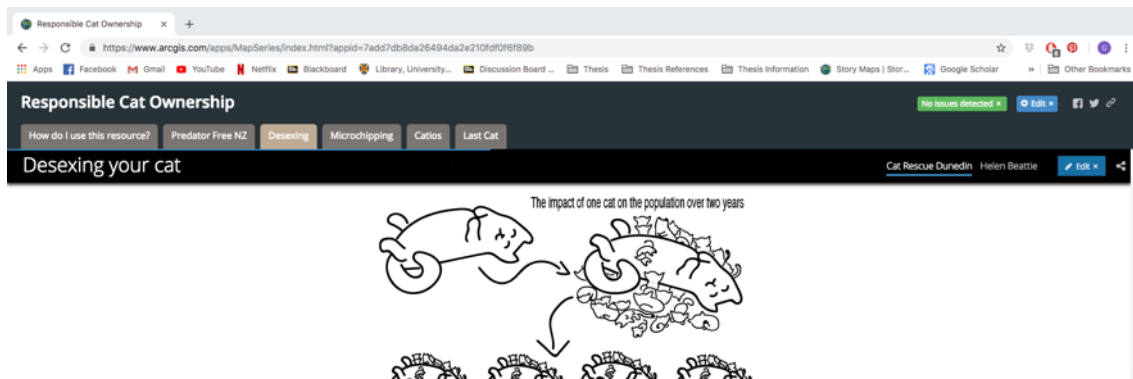


Figure 14: First view of infographic as reader scrolls

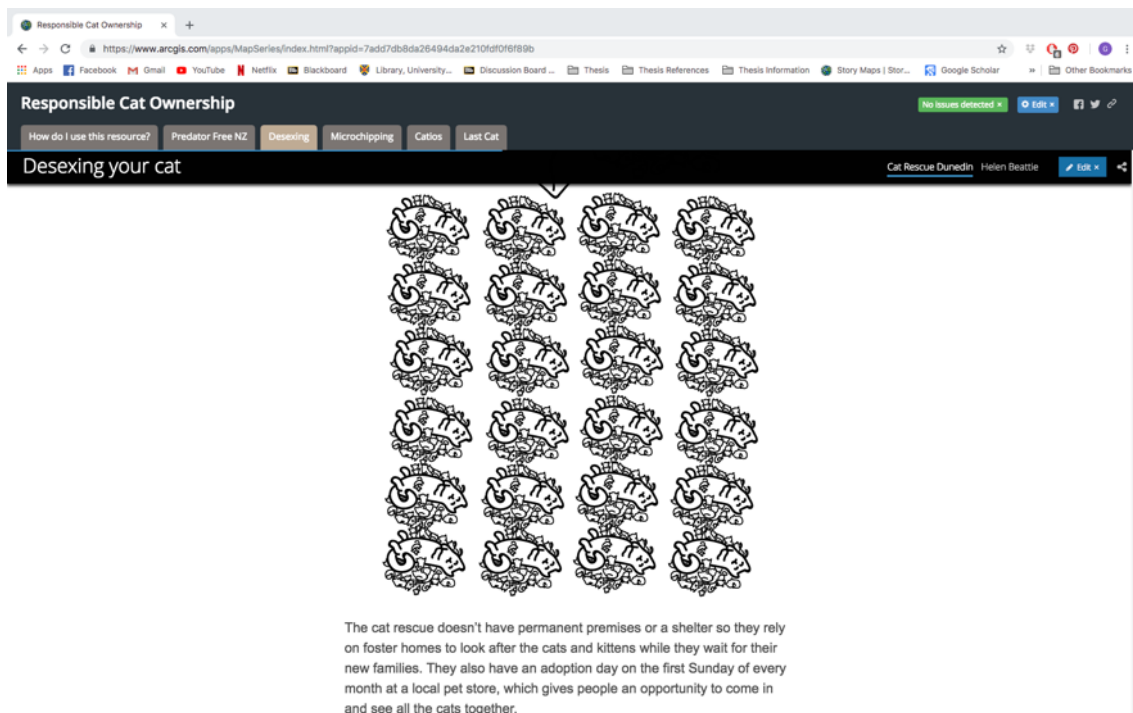


Figure 15: End of infographic (total number of kittens)

I decided to use the same character replicated over again so the overall effect of so many cats was more dramatic for the viewer. The infographic was also developed from its original design, as the first mother cat was initially found at the bottom of the graphic. I discovered that with the scrolling design of the Story Map however, that it was more effective to have the single cat at the top and to have the reader scroll down to reveal the multiple kittens that have occurred. The infographic shows the worst case scenario, and relays the information that cats can have about four litters with a maximum of six kittens each litter. While on average cats will have less kittens than this, I wanted the infographic to showcase the worst-case

scenario. It also is the same basic cat 'character' as the last infographic to maintain continuity.

The story then explains what the rescue does, the number of cats they receive and how much money it costs to run. I then move to some 'feel good' stories of cats who have been rescued and rehomed. This is a way to encourage the reader to consider adopting a cat rather than buying one or getting a free one off the internet. I decided not to go into much detail regarding Baldur, and instead provide a hyper-link to the story where there is already a lot of detail about her rescue. There is a photo of the cat Marmalade, a rescue cat. The story ends with a call to action to consider adopting from a legitimate source, and also to donate to the Cat Rescue Dunedin to help with their incoming bills.

The next section in this story includes an interview with Helen Beattie who is the Chief Veterinary Officer of the New Zealand Veterinary Association. By explaining her position it helps label her as a cat lover. This is further implied by the photo of Helen cuddling a cat. As she worked for the SPCA and is a qualified vet, it is obvious that she cares deeply about the welfare of cats, including stray cats. She served to provide a welfare angle on cat management. She also helps to explain the difference between stray, feral and domestic cats. As explained in the first chapter of this thesis, there is often confusion about these terms and they are used interchangeably by people. The difference between these groups is further highlighted with another infographic.

A further infographic (Figure 16) shows differing levels of dependence that cats have on humans, and the definition that goes with this. The infographic shows a companion cat (live with humans as a pet), a stray cat (have their needs met by humans and are either managed (someone feeds them directly) or unmanaged (they are fed indirectly) and a feral cat (no dependence on humans). The companion cat is shown to be inside the house, showing that it is a pet. The stray cats are close to the house, with the managed cat closer to the house and humans. The managed cat can be seen eating cat food that has been left out for it, while the unmanaged cat is eating scraps out of the human's rubbish bin. The feral cat is the

furthest away from the house eating lizards and can be seen in the trees, showing no dependence on humans. After a review by peers, it was found that it wasn't obvious that the feral cat was eating the lizard and so a tail was placed inside of his mouth. I made it so the more the cat relied on humans, the more orange they were and the wilder cats were made a more natural brown colour.

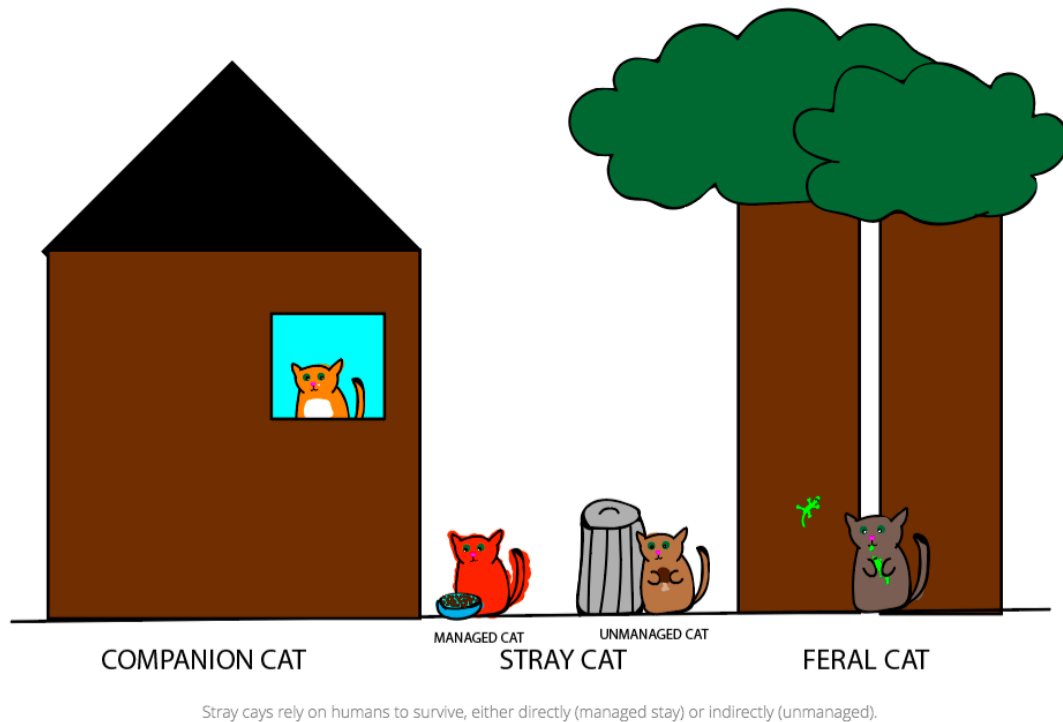


Figure 16: Infographic detailing terminology of cats

I used a quote by Helen to demonstrate the effect that cats have on communities of people when they are not desexed. I then shifted the story from this negative effect of spraying, and fighting etc to the value of cats and how we can't just get rid of them from our society, in order to keep the tone positive towards cats. The story then explains how dog management was also once controversial but is now widely accepted by the public. This is supported by photos of a dog on a leash and contained by a fence. The story continues to compare the two animals before ending on the most negative part of cat management, which is putting down stray and feral cats. Helen is a good advocate for this as she has first-hand experience and can explain how terrible it is for the people and animals involved. There was no supporting media for this part, as there were no positive images that could be

shown in relation to destroying cats. Helen's story ended up being not completely about desexing but it was decided to keep it as part of this story as the topics she discusses, like stray cats, arise from cats not being desexed. They also strongly highlighted how not desexing cats can decrease their welfare. The desexing story ends with a call to action for the reader to consider only adopting a cat and making sure they are desexed.

### 3.6.3 The Microchipping Story

Microchipping has become topical, with the Wellington City Council bringing in a bylaw in 2018 for all cats over 12 weeks old to be microchipped (Wellington City Council, 2018). Microchipping is controversial however, as it is also used for conservation work so that pet cats can be distinguished from feral cats (and thus can be identified as owned and returned to their home). Some owners are upset because they fear that their cat's microchip fails to work and that their cat will end up being euthanised. For this story it was important to try provide reasons for why it is beneficial to microchip your cat, from a cat welfare perspective, and also for other reasons.

The story begins by posing the reader a question "could you identify your cat from a photo?". Many cats look very similar, and so it can be difficult for owners to prove ownership over a particular cat if they are lost. I wanted the reader to think over this, as most cat owners would be very upset if their cat went missing and may take it for granted that they won't. The picture that is featured is of a cat wearing a collar that helps with identification. As microchips are tiny, and inserted into the cats skin, it is not a highly visual topic and so collars were used in the photographs instead to help spread the message of identification. The next photo is of a cat lying in the middle of the footpath. This cat is not wearing a collar and so you cannot tell whether it lives close by or if it is lost. This is common for a lot of wandering cats and shows the importance of identification.

As stated before, microchips are hard to see, and impossible to see when in use and so an infographic was created to help demonstrate where a microchip will sit when inserted into a cat. This section explains to the reader what a microchip is and how

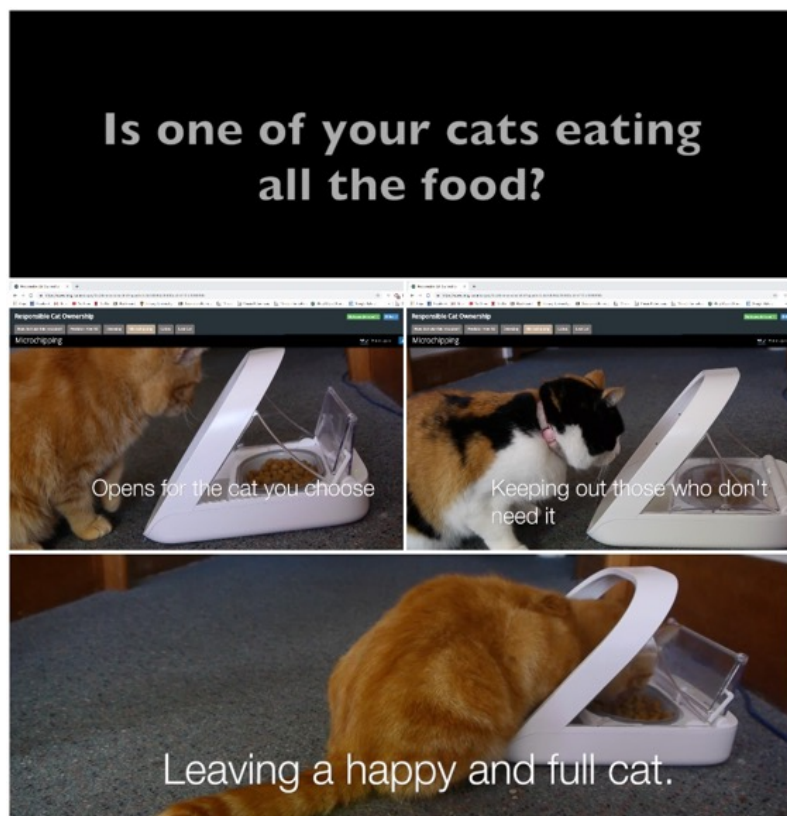
it works. As microchipping is a relatively new technology, many owners may not have much knowledge about them. The subsequent photo shows two very similar looking cats to help explain how it can be easy for cats to be mixed up, especially in a missing poster. It is explained in the text that people can bring cats into veterinarian clinics or local SPCAs to get checked for microchips. Lost and found posters from the Wellington SPCA and the local cat rescue in Dunedin are also included. One of these shows a dispute over the cat advertised, as both parties are convinced that it may be their cat. This helps bring home the message that it can be difficult to prove ownership over a cat. Details are also discussed of the cost of a microchip and where the owner's details go once the cat is microchipped and registered.

When I was researching microchipping, one theme that kept emerging from organisations promoting microchipping was the effectiveness of microchipping in natural disasters. This was a vital idea to promote as New Zealand has had a number of large earthquakes in the last few years, so is a very relevant topic to most New Zealanders. It is also a scenario that some cat owners may not have considered, if their cat does not wander much or they are under the belief their cat will not get lost. During the Christchurch Earthquake of 2011, 80% of cats were returned home that were microchipped (Wellington City Council, 2017). This serves as a factual reminder for cat owners. These statistic were therefore discussed in this section.

Subsequent sections addressed why some cat owners are hesitant to microchip their cats, describing the case of a batch of microchips that failed in 2009-2012 (Virbac, 2018). It helps to clarify the problem and highlight how the company involved was active in fixing the problem at their own expense. This material was intended to reassure cat owners about microchips and how they are mostly very reliable.

Further material explores other positive elements of microchipping one's cat, including how microchip-activated cat doors and food bowls work. It is followed by a video (Figure 17). I created this video to show the reader the microchip

activated bowl in action. The video shows a greedy cat who is stealing food looking sheepishly at the camera. It then shows a ginger cat moving his head into the zone of the bowl that reads the microchip and then the bowl reacting and opening. Subsequently it shows the bowl closing as he leaves. Two different cats approach (an owned over-weight cat, and a stray cat) to show how the microchip bowl can help to stop different types of cats from stealing the food. The video ends with the ginger cat happily eating out of the bowl, undisturbed and with a bowl full of food. The video does have sound, however this needs to be turned on by clicking the volume button in the right hand bottom corner. Because some viewers might not see this, it was decided to have the video with subtitles as opposed to a narration over the top. It was discovered after testing that on some screens the text would be cut off from the bottom of the video, so the video was edited so the text sat higher in the frame.



*Figure 17: Screenshots from video about microchip activated bowls*

The story ends with stories from the Wellington SPCA about cats who have been lost but returned home due to their microchips. It was important that owners could see real life results of microchipping their cats. These were received by me

as Facebook posts on the SPCA page. At first these posts were entered as text onto the Story Map, however they ended up very text heavy and potentially intimidating for the reader to engage with. I decided instead to take screenshots of the posts and upload them as photo images instead (Figure 18). There was one account that was not on Facebook but was communicated by email, which was included as text so I put it in as a pull quote (Figure 19) to make it easier to read and to stand out from the screen captured images. Photos of the cats were included where provided.

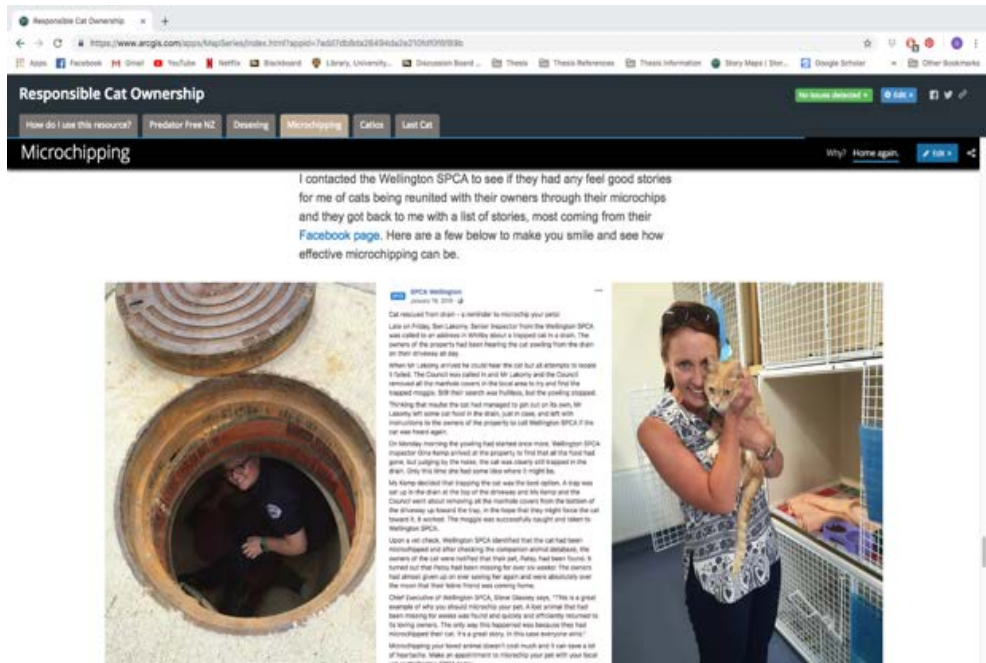


Figure 18: Example two of microchipping stories

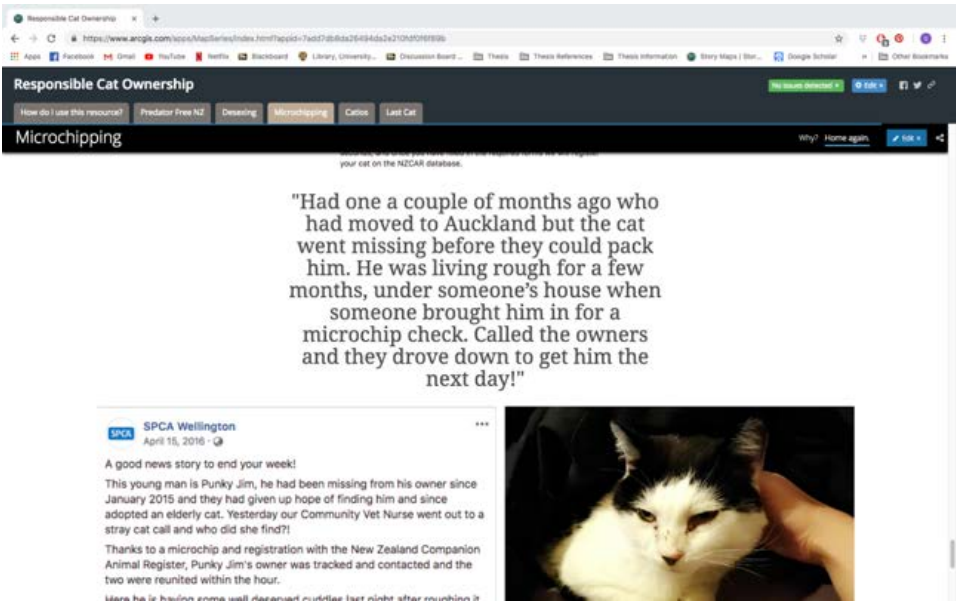


Figure 19: Example one of microchipping stories

#### 3.6.4 The Containment Story

Containing cats is one of the more debated subjects about cat management. Some owners think it is cruel to force a cat to stay indoors, while others think it is stupid to leave your cat outside exposed to many dangers. It was important to approach this topic without getting readers upset or feeling guilty about the choices they make. I wanted to use stories of people who had created a catio (term for an enclosed outdoor space for a cat (Cats Safe at Home, 2018)) on their property so that they could be shown as a valid option for those who were able to follow this option. However, the containment topic was difficult to approach as New Zealand does not have a high proportion of cat owners who keep their cats contained. When promoting cat containment as an option for owners, it is important to also highlight the need for ethical containment and proper enrichment. There is the possibility that people will decrease the welfare of their pet cat if containment is done incorrectly (National Cat Management Strategy Group, 2017).

The main character of this story, Helen, was discovered by talking to Ana from Dunedin Cat Rescue, as Helen's cat Baldur was adopted from there. Baldur has a very emotive and 'feel good' story surrounding her beginnings and so this worked well as a vehicle to encourage the use of catios. Baldur is the cover image of this story as a kitten, and has the words 'The story of survival' over her face. This aims to encourage the reader to continue to read to find out more about what happened to her.

Baldur's story is supported with images of her as a kitten, with her mum and siblings. Baldur helps to showcase the work that the rescue organisation does, while also is a lovely story that helps the reader feel positively towards both Ana and Helen. Like with both Ana and Helen in the desexing chapter, a photo is included of Helen with Baldur to help make the story more personal and authentic. I met with Helen at her Oamaru property to learn more about her cats and her catio that she has built. Helen's cats help to showcase her love for the animals, which will make her a more appealing character to the reader.



An immersive section was issued to introduce all of Helen's cats (Figure 20). As the reader scrolls, they get a photo of each cat as well as a sentence or two about them. I thought that this would be a more interesting way of introducing these characters as opposed to a simple list. This lets the reader scroll but spend a moment with each cat before moving onto the next one.

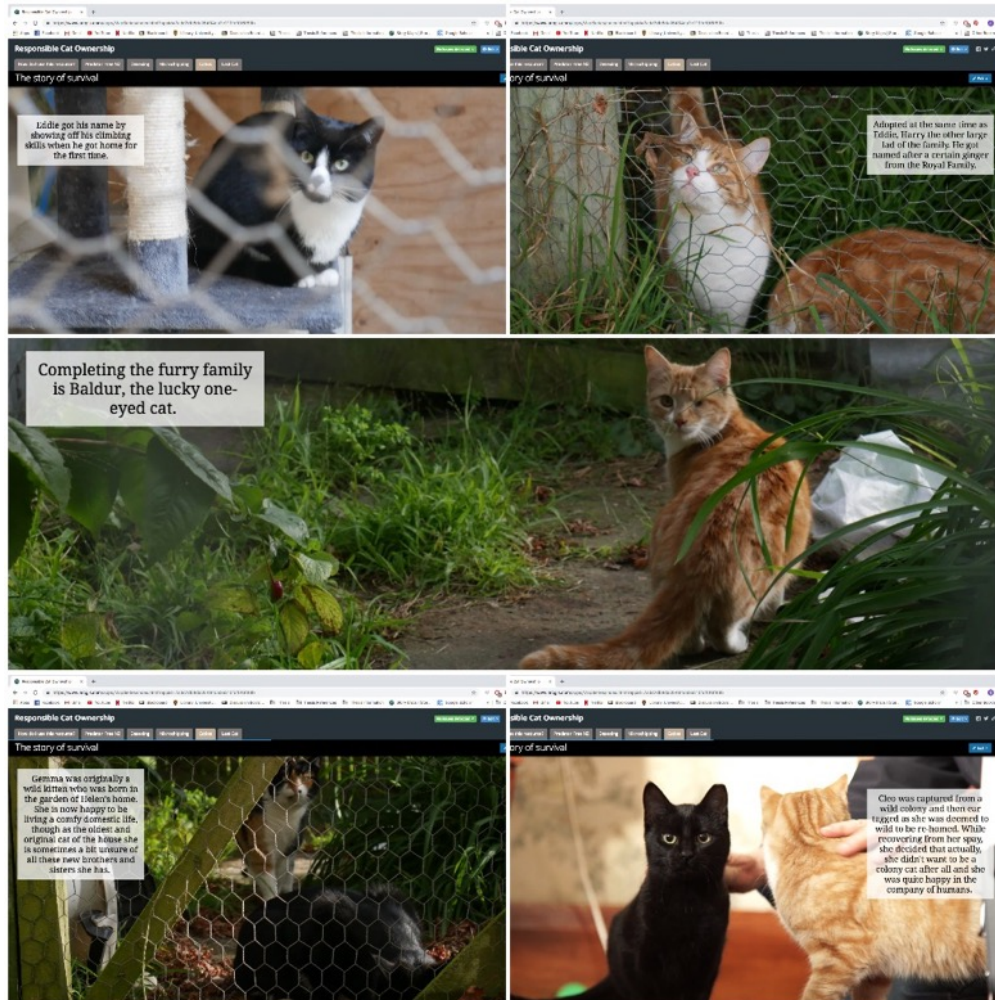


Figure 20: Screenshots of immersive section in Cascade, Story Map

This story also utilises video to show the cats using their carry boxes that they are transported in and out of the catio with. Using a video helps show the cats at ease with the situation as I assumed that many cat owners would not have positive experiences with cat boxes and so may see this as cruel. The story goes into detail about this specific catio, and talks about what it looks like and how it was built. This is then complimented by a further video that I created which shows footage of

the different elements that the catio is made up of and the cats interacting with it. Again, this aims to show that the cats are at ease and enjoy their surroundings. The story ends by providing other options to a catio, like keeping your cat indoors or creating special fencing to keep your cat inside your property. By creating a positive character in Helen and telling her story, this piece of writing may hopefully get readers who are not currently positive about containment techniques to see there are ways of achieving this that are good for the owner and the cats.

### 3.6.5 The Last Cat Story

The story about not owning anymore cats addresses the suggestion that this is a solution to reducing the impact of cats on wildlife. In order to make this idea more personal and relatable it was decided to include members of the community who have made the decision to no more cats after the death of their last one.

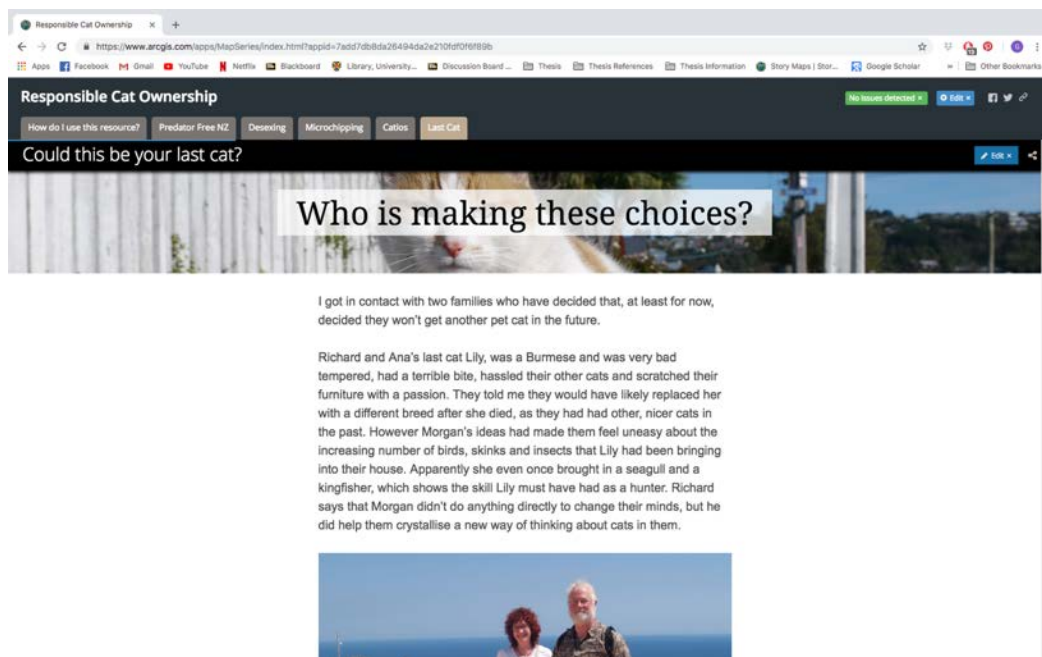


Figure 21:: Screenshot of Last Cat story

This may not be a choice for everyone but is something to be considered. Two families from the Otago region were interviewed, and asked about their cat and why they made the decision. Photos of the people involved and their last cats are presented (Figure 21). The first, Jenny's story, is very cat positive and she speaks

about how she does miss having a cat around. It is important that this story isn't isolating to cat owners because while they may not agree with the idea, it is important to still get people thinking about their options in relation to cat ownership. Both the personal stories end with a positive effect that they have seen in their garden after no longer having a cat.

The next section is about the mayor of Dunedin, Dave Cull, who has also decided to no longer have any more cats. Questions were sent to him via email about his experience which he responded to. While Dave isn't as positive about cats as the other people who were interviewed, it is good to have a balance of everyday people and people with more fame.

The story finishes with a cat sleeping by the fireplace (Figure 22). As the reader scrolls down there is a vertical line which wipes away to a new image with a cat no longer there. This is to illustrate the idea of having your last cat. This is followed by the call to action in italics. It asks people, even if not necessarily taking this step, to think about their cat's effect on the environment and ways they can do things to help increase their cats welfare that help out our environment.



*Figure 22: Screenshots of immersive section with horizontal swipe*

### 3.7 Story Order

The first story needed to explain how to use the Story Map, so that readers were not confused and turned away. I decided to include the Predator Free story next, as it helped provide context to why responsible cat ownership is important. The desexing story needed to come before the containment story as Cat Rescue Dunedin and Ana needed to be introduced before Helen and Baldur were. The stories also are in order of more accepted types of cat management to least accepted. The last cat story serves as a roundup of ideas.

### 3.8 Obstacles in Story Map Creation

A problem that arose with using the Cascade app was the excess of information that occurred if it was all included in one story. With a word count of around 8,000 words, if the whole Story Map was on one page it would be too long for a reader to scroll through without any other navigation options. I discovered that the Cascade app allowed for bookmarks to be created by going into the settings sections and selecting the boxes for where each new section in the story should begin (Figure 23). This solved the problem from within each story, however if all stories were put on the app there would be too many sections still and would likely turn readers away from engaging with the Story Map.

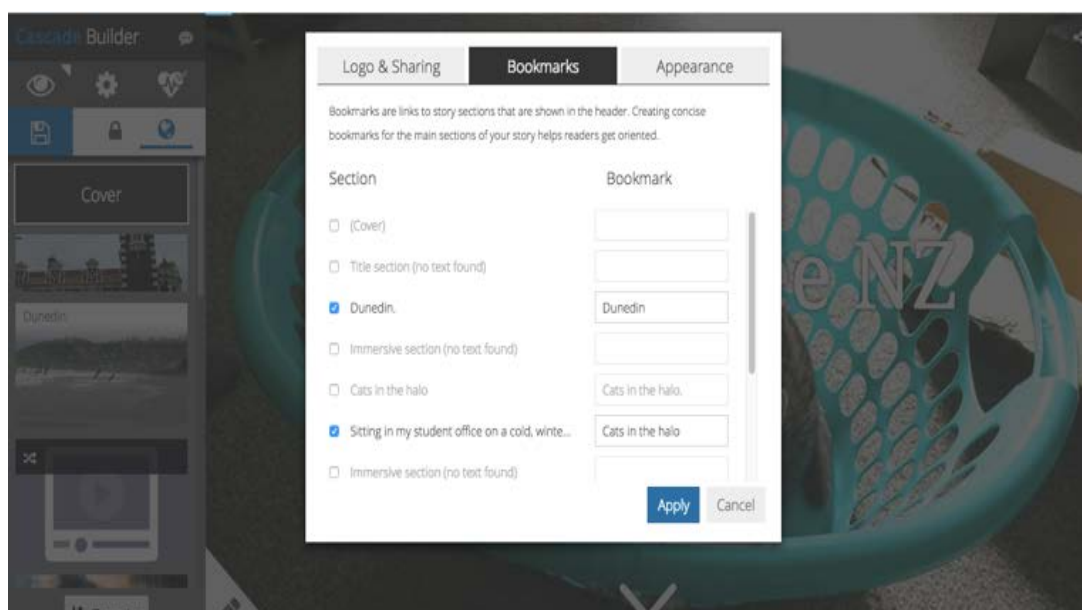


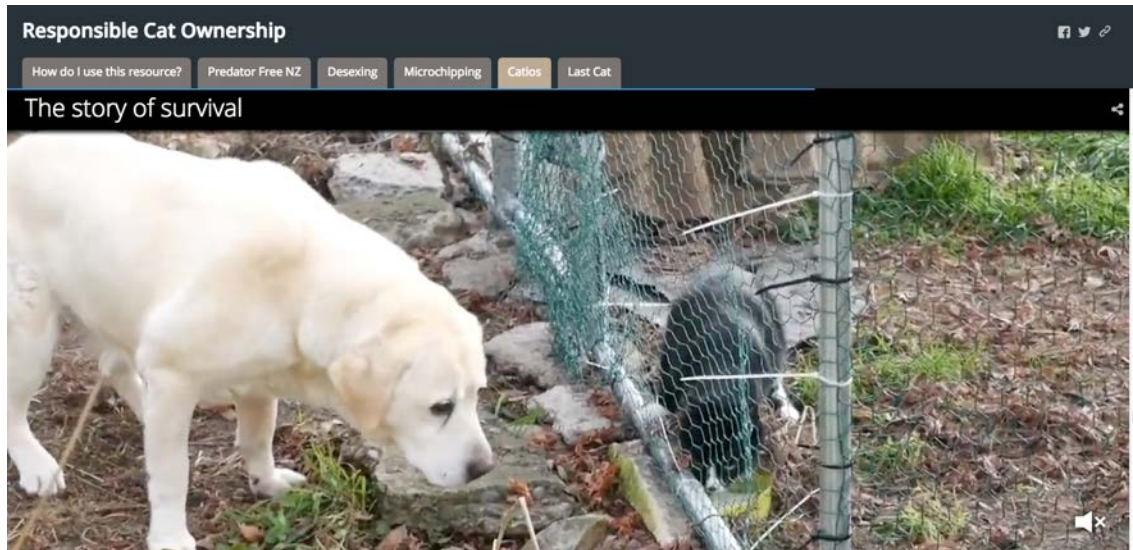
Figure 23: Author view of bookmark creation

In order to combat this problem, the main Story Map was hosted using the Map Series app. This app allows websites to be imbedded within each series, and so it was possible to imbed an entire Cascade app story into the Map Series. This allowed the author to make titled tabs for each story, so readers could easily navigate to the story they wanted to read, and then select specific sections once reading a particular story.

One other problem that I encountered when creating the Story Map was with the use of videos. The cascade app allows you to upload your own media to the cloud which can then be used in a particular part of your story. However, it does not allow you to directly upload video and instead it has to be linked from a URL from a different site, such as Vimeo or YouTube. This means that the author has to first upload their footage to a different site and link it to their Story Map. This can be difficult when footage is being provided by a different person due to rights issues. In this particular instance, the footage I used was uploaded to YouTube but as a 'private' video. This means that only people with the link can view the footage, but other people cannot find it by searching on the website. This helped protect the footage rights. The video is then only accessible by the audience who are viewing the page via a computer. The author is required to select an alternative still image that will be seen if viewed via a smart phone or tablet. This is potentially a severe limitation as smart phones are likely to be used for viewing this unless people are advised otherwise.

In order to make videos auto play, they must be included as an immersive section in Story Map. However, because of internet browser conditions, they cannot auto play with music. This means that the reader will have to click on something to engage fully with the videos, either a play button if included in the main body of text instead of an immersive section, or a sound button if the video auto plays (Figure 24). This clicking takes away from the seamless scrolling experience that the author initially wanted the readers to experience.





*Figure 24: Screenshot of immersive video with sound button (bottom right)*

It ended up being more difficult having a Story Map where the reader simply scrolled which was my original idea, as videos did not allow for this and the amount of content meant that it was necessary to have story tabs and sections within each story. This allowed the reader have some control over their own navigation but the main way of navigating was still by scrolling down.

## Chapter Four

### 4.0 Consultation for Cat Owner's and Conservation Professional's Opinions on the Responsible Cat Ownership Story Map.

#### 4.0.1 Consult Groups: Cat Owners

Due to my Story Map's target audience being cat owners, I decided to use a sample of cat owners to be surveyed about their thoughts on the Story Map. I recruited these participants through a 'Cats of Wellington' Facebook page or through personal networks of mine. Other Facebook groups were approached but the posts were not approved by the admins due to group rules prohibiting advertising. I posted on these various Facebook groups asking for people who would like to read a resource about responsible cat ownership and then answer some questions about the resource. The people who wanted to be involved either commented on the post, sent me a private message on Facebook or emailed me. After I received their contact details I sent out emails to participants, outlining what the study entailed, how long it would take to read the Story Map and complete the accompanying questions. I also explained that they would be in the draw to win one of four Animates vouchers (a New Zealand pet store chain) if they completed the survey by a certain date. The ethics forms (appendix A) were also attached with the email. They were informed that all their answers would be kept anonymous. They were then provided with the link to the Story Map, and told it was best viewed on a computer. Because of this, only two participants viewed the Story Map on a mobile device. The survey questions (Table 1) were included in the email message and as an attached word document so that participants could choose the easiest way for them to reply. They were also asked demographic questions including:

- Name:
- Age:
- Sex:
- City/Town:

- Cat's name and age:
- How did you view the resource? Mobile or computer?

#### 4.0.2 Consult Groups: Conservation Professionals

Professionals who worked in the areas of conservation and/or cat management were recruited via personal networks that were created during the creation of the Story Map. Some participants were recruited as they had already been interviewed for the Story Map.

Like the cat owner group, participants were sent a similar email outlining what the study entailed. Participants who were interviewed for the Story Map were also asked for further feedback e.g. if they were happy with their represented interviews and stories. Participants were told they could reply via email, phone or an in person interview. However, all participants chose to reply via email. The survey questions were also included in the email message and as an attached word document. Participants in this group went in the draw for a New World voucher (New Zealand supermarket brand).

Table One. Survey Questions

<b>Functionality of Story Map Resource:</b>	
Question One	What part of the resource did you enjoy the most?
Question Two	What part of the resource was most memorable to you?
Question Three	Did you find the resource easy to navigate?
Question Four	What was your favourite type of media in the resource and why?
Question Five	What problems did you find?
Question Six	Would you read this content if you came across it on social media?
Question Seven	Would you share this content with others?



Question Eight	How did you feel about its entertainment value? Was it interesting to read and did it hold your attention?
<b>Coverage of topic:</b>	
Question One	What do you think the overall message of the resource is?
Question Two	What did you think about each chapter – did they fully cover each topic?
Question Three	Was there anything else you wish was covered?
Question Four	How did you feel about the length of the content?
Question Five	How did you feel about the use of characters and personal stories?
Question Six	Do you think there needs to be more information specifically on the effect of cats on wildlife?
Question Seven	How does this piece make you feel about cats?
<b>Inclusiveness of Narrative</b>	
Question One	Do you feel like the tone was inclusive (not confrontational?)
Question Two	How did you feel about the way cats were portrayed in this resource?
Question Three	Would you like to be able to add to this resource yourself? Through your own stories or perspectives?
<b>Opinions about cat ownership</b>	
Question One	Do you feel that cats should be allowed to roam free in New Zealand and do
Question Two	Do you keep your cats contained for some parts of the day and if yes, then when?
Question Three	Have you desexed and/or microchipped your cats?
Question Four	What do you think is the main reason for people not microchipping their cats?

Question Five	What do you think is the main reason for people not desexing their cats?
Question Six	Do you think people who feed stray cats should be responsible for their health care? Why?
Question Seven	How do you see cat ownership moving in the future? Do you think it will change or stay the same?

#### 4.1 Unsolicited Social Media Opinions

The link to the Story Map was sent out via email to all participants, and the Story Map was made public by the application's settings. One participant, who was part of the cat owners consult, posted the link to a Facebook page titled 'NZ against the cat ban'. I was notified about this via email as the participant thought I may like to view the comments. This group was formed in August 2018 in response to "the possible cat ban in Omaui". It was not intended for the link to the Story Map to be shared, but as this post got attention and comments, I decided to code the responses to see what themes emerged from this group discussion. There were eleven people who commented on the post (ten of the being female and one male). Their ages and locations were unknown.

#### 4.2 Data Collection and Coding

Data was collected via emails, and answers to each specific question were compiled to anonymise the data and to identify dominant responses. The responses were also coded to identify key themes arising from comments. Such data analysis used inductive coding which involves using raw data to construct themes, concepts and create interpretations and allows significant themes to be identified without the constraints of structured methodologies (Thomas, 2006). Each consult group was coded separately to determine themes, and then compared to one another. Because most responses were short, direct quotes were used for codes. A quantitative analysis was carried out to identify percentages of participants mentioning a theme. Answers were not mutually exclusive as some

participants had answers that could fall into two categories, so percentages do not always equal 100.

Some participant answers were excluded if they did not answer the question in an interpretable way (e.g., when they misread a question and answered it in a way that did not make sense). The coding of the Facebook comment thread only included coding for themes, rather than calculating quantitative percentages as the amount of comments were too small. Although tests of coder reliability were not used for this thesis, this could be carried out if the research was prepared for publication (where a second coder analyses part of the data to check the reliability and confidence in the first coder's data set).

#### 4.3 Results:

Because the majority of participants were recruited through the 'Cats of Wellington' Facebook group, most participants (61%) lived in the Wellington area. There were also participants from Dunedin (16%), Auckland (8%), Christchurch (8%), Rotorua (3%), Palmerston North (3%) and Temuka (3%). The majority of participants were in their 20's (37%), although there was also a high amount in both the 40's category (27%) and 50's category (27%). Most participants were female (84%). I also asked participants how many cats they owned in the survey. Most cat owners only owned one (47%) or two cats (29%). Six participants owned four cats or more. There were thirty-eight people in the cat owner consult group in total. The conservation professional group was significantly smaller than the cat owner group, consisting of seven participants compared to the thirty-eight in the cat owner group. There was three males and four females who participated.

##### 4.3.1 Functionality of Story Map Resource:

These questions mostly addressed whether the Story Map was enjoyable, and what parts made it so, in terms of specific media. It was also useful to ask what parts were memorable as this allowed participants to comment on things that stuck out to them (and not necessarily in a positive way). These questions allowed the evaluation of functionality like the immersive scrolling and tabbed sections, and

asked if the reader encountered any problems. This allowed the Story Map to be evaluated and potentially improved in the future. Questions also asked about sharing and social media behaviour to understand whether the Story Map could be shared easily or at all. It was also important to know if participants were entertained by the Story Map, as this is an important element of whether they engage and therefore learn more about the topic being communicated.

*Q1: What part of resource did you enjoy the most?*

The most popular part of the Story Map in the cat owner consult group was the photographs with 24% of respondents mentioning them as an enjoyable part. An example quote from this is: *"The photos and videos. They made it seem less like I was reading a long boring article and something a bit more interactive and interesting"*. Another 21% of respondents mentioned that they liked the conservation aspect the most, like the Predator Free Chapter, talking about Orokonui or the Halo Project.

Other parts that people said they enjoyed were reading the narrative or the general information that was presented in the Story Map (13%), reading about the catio and Helen's story (13%). Another 5% of respondents stated that the desexing story was their favourite, 16% of respondents said that the stories and characters in the Story Map was their favourite part and 8% was the videos. Less participants enjoyed the microchipping part, with 3% saying it was their favourite. There were also less people for graphics (3%) and the Last Cat story (3%) as their favourite parts. There was 11% of respondents who said that there was no one thing they could identify as liking the most, or they liked all of it equally.

Within the conservation professional group 43% of respondents (3/7) said that they enjoyed it all, or couldn't pick one thing. Of those that specified, 29% mentioned that they enjoyed the Predator Free story, 29% mentioned the personal stories and 29% mentioned that the ease of reading and navigating was enjoyable. The most popular story that was singled out by this group was the Predator Free story, with respondents from both groups identifying that they enjoyed this. As

respondents mentioned that they liked the stories in general, it is possible that other stories may have been popular but just were not identified. Rephrasing the question to ask what specific story they liked the most could have given more insight into this topic.

*Q2: What part of the resource was most memorable to you?*

In the cat owner consult group, 31% (11/36) respondents said that Helen's story was the most memorable for them, e.g. *"what she did in creating a cat enclosure was such a smart and innovative idea that I had never heard or even thought about before. Spreading ideas like this is really beneficial to everyone"*. Another 19% of respondents said that the Last Cat story was the most memorable part of the Story Map. This was a mix of positive and negative responses however. These two example quotes show one negative response: *"the section on Last Cat – in a very negative way"*, and one positive/neutral response: *"the last cat page – made me think about my current cat being my last cat"* There were 17% of respondents that said the desexing story was most memorable. A smaller amount (11%) of respondents said that the microchipping story was most memorable to them, and for some, the specific part of this story was the earthquake example and why it was important to microchip. For example, *"the importance of this [microchipping] in the case of natural events, such as earthquakes"*.

There were 14% of respondents who said that the Predator Free/Orokonui story was most memorable and generally in a positive way, indicating that they didn't know it existed. However, one person thought that it was memorable but for a negative reason: *"Unfortunately the tone throughout on the emphasis on Predator Free NZ, I would have been more likely to get behind this as a concept if the focus was primarily focussed on responsible cat ownership for the safety of the cat, with the Predator Free NZ as one outcome"*. A further 11% said that the photos were most memorable.

The most common memorable part that was mentioned by conservation professionals were the photos/videos (29%) and the people interviewed (29%). Respondents also mentioned the style (14%), and specifically the containment

story (14%) and the microchipping story (14%). The two consult groups appeared to interpret the question differently, as most of the cat owners answered this question in relation to what story was most memorable, whereas the conservation workers were mostly about specific aspects like the photos and style. Both groups, however, remembered the containment and microchipping stories in particular.

*Q3: Did you find the resource easy to navigate?*

In the cat owner consult group, 95% (36/38) of respondents said that they found the Story Map easy to navigate. Only 3% said that they couldn't navigate it on the phone, but could once they switched to their computer, 3% said that navigation was "average" and 11% said that it was easy to navigate but was slow to load. These slow to load respondents particularly mentioned that it was slow to load around the videos, and so they may have just been experiencing the immersive scrolling and thought the page was still loading instead. For example: "*with the videos going full screen, it took a bit to scroll down to the next part of the text*" and "*sometimes it would get stuck on the videos a bit before it would react to me trying to scroll onwards*". The loading time comes from having to embed multiple Story Maps onto one main Story Map, but may be made worse by individual respondent's internet connection and computer. However, most respondents did not have this problem. The problem with the scrolling could likely be fixed by a better explanation in the 'about' section, explaining why this scrolling is different to normal scrolling and that it would take some time to move past each section, but that this was a desired design element.

Within the conservation professionals, 71% of respondents answered yes it was easy to navigate, while 29% said that they did find it easy, but had problems initially.

*Q4: What was your favourite type of media in the resource and why?*

The cat owner consult group had 61% (22/36) of respondents that mentioned that the photos were their favourite type of media, for example "*I liked the use of photo images which put names to faces throughout the resource*". They also help to

communicate the message that is being told, for example, *“The photos and videos of the cats. They reinforced the notion that this was not an anti-cat website but rather one that was encouraging the careful management of pets so that native animals were not threatened”*. There were also 19% who said that the videos were their favourite media and 8% said that the written words were their favourite. Less respondents (3%) said that the scrolling was their favourite, for example *“Where you had a photo and you would continue scrolling and the photos would stay and then text would show up. A fresh way to just constant scrolling”*. It was interesting that the scrolling element almost seemed to hinder more respondents than those who mentioned that they enjoyed it. I think it would be important to better explain and highlight the scrolling function in the Story Map and then it might be noticed more, or received better.

Similarly, 86% of respondents in the conservation professionals group mentioned that the photos were their favourite type of media. Other media types mentioned were videos (43%) and the written media (29%).

*Q5: What problems did you find?*

Within the cat owners consult group, 46% (17/37) of respondents said that they did not encounter any problems when using the Story Map. Of those encountering problems, 22% said that it was too slow to load (though acknowledged this could be due to their internet speeds rather than the Story Map itself), 14% said they had a problem with the scrolling function. There were less respondents who found errors in regards to grammar and/or spelling (5%) or that it was too long/wordy (5%). Another 5% said that they had problems with the videos, however these problems were all to do with the sound aspect of them. For example, *“I had to click on the mute/unmute button on each video to get sound”*. Story Map and internet browsers prevent automatic playing videos to have immediate sound. The comment that had this issue mentioned the mute button, so while this problem occurs, it is obvious to the reader what they have to click to get sound to occur.

Similar to the cat owners, 43% of conservation professional respondents didn't find any problems, however 29% mentioned they found spelling/grammar issues.

The other problems that were mentioned included loading time (14%), difficulty scrolling (14%) and that it may be a bit long (14%).

*Q6: Would you read this content if you came across it on social media? And Q17: Would you share this content with others?*

The majority of respondents in the cat owner consult group (68%, 26/38) said that yes, they would read this content on social media and 18% said that they might share it and only 11% said they probably would not share it. No one said an outright no answer to sharing the content. The people who said they probably wouldn't share it said they would likely change their minds if the content was more about protecting cats, split into shorter sections/shortened, or if it was more "light hearted". Even more conservation professionals (71%) said that they would read it if they came across it on social media, and 29% responded that they may read it, but it was possibly too long. Question 17 is about sharing rather than reading the content, however the respondents started to talk about sharing in Question 16.

For Question 6 of the functionality questions, in the cat owner consult group, 74% (28/38) of respondents said that they would share this content with others: *"I do not share content randomly but if a friend had a specific interest in the content (such as the catios), then yes, I would"*. Another 18% said they might share it with others and 8% said no/probably wouldn't. There was 100% of respondents in the conservation professionals group who said they would share this with others with 29% who said that would share on their organisation social media or websites rather than personally.

This is important because social media works to create virtual communities (Chiu, Hsu and Wang, 2006). They are described as "online social networks in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interactions" (Chiu, Hsu and Wang, 2006, p. 1873) Social media, like Facebook, can lead to the exchanging of information and increase cooperation and interaction among learners (Chiu, Hsu and Wang, 2006).



If cat owners were willing to read and share this information on social media then it could lead to more people in their virtual communities having access to these ideas and information.

*Q7: How did you feel about its entertainment value? Was it interesting to read and did it hold your attention?*

In the cat owner consult group, 87% (33/38) of respondents had a positive response to this question. Another 13% of respondents reacted with a negative or neutral statement, for example *"It's okay but nothing new to me"*. Some of the negative comments focused on the length of the stories within the Story Map, e.g. *"I found myself skipping over a lot of the information as I already knew it. It was difficult to then find/focus on new information. I think it might have been more interesting for me if it read a bit more like a blog (in terms of entertainment value)"*. In contrast, 100% of the conservation professional respondents said they enjoyed the resource. However, 29% stated that while they enjoyed it, there were a few sections which were too long.

#### 4.3.2 Coverage of topic:

These questions addressed what the readers thought the Story Map was trying to say, and whether they thought the full scope of the topic was being covered and how well this was achieved. The topics for the stories in the Story Map were aligned to those highlighted in the Cat Management Strategy Document, but there are other topics that could have also been explored, like disease or specific examples where cats have had a negative impact on the environment. It was also important to see how the readers felt about the length of the Story Map, as if it was too long readers might be likely to disengage with the material. As it has been shown that personal stories help people accept more perspectives and can change perceptions and attitudes (Baskerville, 2011), it was important to see if the readers enjoyed the personal stories included in the Story Map, and gauge whether this was a successful way to spread the concept of responsible cat ownership. The question of whether there needed to be more specific information about cats and

their impact on wildlife was also asked. This was because I noticed while I was completing my creative component of this thesis that often when cat management was presented in online forums, people got very upset when it was portrayed from an environmental perspective, especially when scientific studies were cited. For this reason, I tried to stay away from too much data or specific reference to scientific studies about cats and the environment as an intentional goal for not alienating certain cat owners. However, I wanted to know if people wanted more of this content, in case they found this more compelling than personal stories. The final question asked how the Story Map made the reader feel about cats broadly and sought to identify if it changed their mind in any way.

*Q1: What do you think the overall message of the resource is?*

In the cat owner consult group 35% (13/37) participants mentioned that the resource message had something to do with responsibility/ownership and 14% mentioned that the environment/wildlife/cats' impact was the overall message of the resource. Some respondents thought the message was a combination of these two and was about both responsibility and the environment (35%). Only 3% thought it was promoting an anti-cat message. It is of note that only 11% of respondents perceived anything about the welfare aspect in the message.

Conservation professionals felt the most common message that appeared was about wildlife and ensuring cats do not become pests (57%). Respondents also mentioned the message of needing to manage cats better (43%), responsible cat ownership (29%), not eliminating cats (14%) and ensuring the welfare of cats (14%).

The main themes that came across as the message of the Story Map were responsibility/ownership and protecting wildlife. While this was an important message to take away from the Story Map, the main aim was to try and address the issue with a main theme of improving cat welfare. While this theme was identified by some readers, the theme of protecting our wildlife seemed to be more apparent to readers. Although not meeting my aim on one count, the responses do show that

the Story Map serves to deliver an environmental message that is an inclusive and fair depiction of cats (thus avoiding controversy).

*Q2: What did you think about the chapter – did they fully cover each topic?*

In the cat owner consult group 81% (30/37) of respondents said yes, it did fully cover each topic. Another 17% of people said no, and suggested other topics to cover or go into more depth with. Some cat owners talked more about their enjoyment level of the chapter rather than what was covered within it, which did not really answer the question. Perhaps this question could have been phrased better to aid understanding. People who said no mentioned that they would like more on:

- Catio and transitioning cats to an indoor life.
- Information about desexing e.g. cost
- Media in the Predator Free section – especially around Elton's quotes as *"some were quite hard to believe are true if you don't already have a background into his character and beliefs"*.
- Regions which have stopped allowing new cats.
- Future projections of cat ownership.

Within the conservation professional consult group, respondents wanted more coverage about catios and indoor cats (43%), more about the environment (14%), responsible cat ownership (14%) and a condensed section highlighting parts of each story (14%).

Thus main themes that emerged about increased coverage were mostly indoor/contained cats and introducing/transitioning a cat to a more indoor life. This is a positive theme to have emerged as it shows people are engaging in the idea of having an indoor or contained cat, which is not as common in New Zealand as other countries. Less than 8% of pet cats live indoors at all times in New Zealand, as opposed to 34% of pet cats in Australia (New Zealand Companion Animal Council Inc., 2016). By containing their cats for some or all of the day, it

means that these animals are not able to hunt native wildlife, get into fights with neighbouring cats, defecate on other peoples' properties or be killed by traffic.

*Q3: Was there anything else you wish was covered?*

This question was somewhat answered in question two of this section of questions, as people who did not think all topics were covered gave suggestions. In this questions 50% (18/36) of the cat owner consult group said that there was nothing else they wanted covered. 50% (18/36) respondents said that yes, there was something else that they wished had been covered. Of these, 25% (4/16) of respondents wanted more information about indoor cats and catios, 19% asked for more positive information around the benefits of owning a cat, 13% wanted more specific statistics/data, 13% wanted information on how to stop their outdoor cats hunting and 13% wanted more information about desexing your cat. Out of the respondents in the professional group, 29% of respondents didn't think anything else needed to be covered. Those who did suggested information about biodiversity/wildlife (29%), law changes (14%), catios (14%), stray cats (14%), agencies/resources that provide help/advice (14%), diseases that cats carry (e.g. toxoplasma).

As stated above, respondents wanting more information about indoor cats is positive. The cat owner group wanted to know more topics regarding their cats, whereas the conservation workers seemed to be more focused on more coverage of biodiversity and wildlife. This was an expected outcome. As the Story Maps target audience is cat owners, it would be the themes they touch on that should be given the most importance.

*Q4: How did you feel about the length of the content?*

In the cat owner consult group, 66% (25/38) of respondents thought that the length was good. Some participants (8%) stated that while the Story Map was a good length for them, they thought it might be too long for others. Another 26% of respondents thought that the Story Map was too lengthy. Some people mentioned

that there were just particular stories that were too long. The two stories that were singled out were Predator Free NZ (20% of yes respondents) and Desexing (10% of yes respondents). In the conservation professionals group 50% of respondents mentioned that they thought the length was appropriate, and 50% felt that it was too long. Some respondents mentioned that it was generally good length, and a bit long in certain sections. Some respondents in this group also mentioned that it was of appropriate length for the topic that was conveyed, for example, *"It was a good length. It didn't go on and on to get a point across but also wasn't too brief that you were left with heaps of questions. It was the right length for the content that was covered"*. Respondents had previously suggested providing an outline or summary at the beginning of each story. This would allow for readers to get the main message quickly and easily but also give them the option to read on to get more detail on the subject.

*Q5: How did you feel about the use of characters and personal stories?*

In the cat consult group, 97% (37/38) of respondents stated that they liked the use of characters and personal stories, only 3% said they didn't and 35% of respondents who enjoyed the stories and characters mentioned that they made the story feel more *"real" / "relatable" / "personal" / "authentic"*. For example, *"very much enjoyed them – also very useful to see how other people are coping with their own cats and this situation. Makes doing something about our own cats less onerous"*. There was only one comment that stated that they did not like the stories. However it relates specifically to the Last Cat story, *"I think the stories of the people choosing to give up cats permanently are just horrible"*. This story is easily the most controversial and it is easy to see why it may turn some people away from the topic. This did not seem to bother most of the readers however. In the conservation professional group 100% of respondents answered with a positive comment. The main themes that came across in this question was they made the stories *"personal" / "relatable"* (71%), the respondents loved them or felt good about them (86%) and they made the stories more *"engaging" / "interesting"* (43%).

There was clearly an advantage to using personal stories in the Story Map and they were received well, making the content seem more relatable and personal to readers. This is what I hoped to achieve, so that cat owners could see options around responsible cat ownership that they may want to implement in their own lives.

*Q6: Do you think there needs to be more information specifically on the effects of cats on wildlife?*

In the cat owner group 58% (22/38) of respondents said that yes, there does need be more information about the effect of cats on wildlife included in the Story Map. Within that group 14% (3/22) specified that there needed to be more statistics or specific research included. One person also wanted native lizards to be mentioned more in the Story Map: *“yes, especially skinks – most people know about the bird thing but might think that it’s fine for their cats to hunt lizards”*. In contrast, 39% of respondents said that there didn’t need to be more information on this in the Story Map. The dominant reason, given by 20% (3/15) of respondents in this group was because there is already enough about this in the media/internet. For example, *“This is widely available in the media. Repeating it might cause people to lose attention and/or become defensive about owning a cat”*.

In the conservation group, 100% of respondents stated that yes, they did think more information was needed, with 57% stating that there needed to be more about cats hunting and prey and 14% said there needed to be more about roaming. For example, one commented that it should be addressed *“that people have no idea what their cats kill and no idea that their cats roam”*. It seemed as though the majority of respondents did want more information about the effect of cats on wildlife. This data would have to be thought about carefully however, as again, social media posts indicate that some cat owners are sceptical about such sources and will automatically dispute what they say. It could be possible to provide a summary of some studies and perhaps give access to the public to read further so they could critically read and make up their own minds. I think it would be good to stress that the wildlife mentioned in the Story Map includes lizards as well, as I

think this was not initially clear to the reader. Cat owners may not realise that lizards are an important part of our native ecosystems and, often, their cat's prey.

*Q7: How does this Story Map make you feel about cats?*

In the cat owner consult group, 66% (25/38) of respondents said that the Story Map made them feel *"positive"*, *"still feel good about cats"* or to have *"no change of [my] love of cats"*. For example, one respondent commented, *"nothing will make me stop loving cats, so this piece has not changed my thoughts on them"*. These comments were counted as positive responses, but it could also be seen as though readers were feeling threatened and think the questions are asking if I have changed their mind and if they no longer like cats. Cat owners can become very defensive and so it is important that the Story Map doesn't come across as a persuasive piece against cats. In this group, 29% of respondents said that reading the Story Map made them think more/be more aware about their cat's impact on the environment. Respondents mentioned about needing better *"ownership" / "management" / "responsibility"* over their cats (18%) and 5% said that the Story Map made them think about not getting another cat after their one passes away, e.g. *"seriously, I would think twice about getting another when Puff goes"*. There was 16% of respondents that said that the Story Map made them feel like their cats were being *"threatened" / "misrepresented" / "cast in a bad light"*.

The majority of respondents in the conservation group stated that the Story Map made them feel positive towards cats (57%). Few said it made them feel negatively about cats (14%). However, the negative comment from the conservation group was because the respondent already had that belief e.g. *"I already don't like cats in our environment"*. A further 71% indicated that it made them feel that cats needed better management/ownership.

I seem to have achieved my goal of using a positive perspective and language, but also have encouraged cat owners to consider how they own their cats. The Story Map seemed to encourage some cat owners to be more aware of what impact their cats may have on the environment, for example, *"It does not change how I feel*

*about cats. I love cats and our cats bring a lot of happiness to my family. It does, however, make me think that I needed to be more aware of their impact on the environment".* There were also themes of needing better cat ownership/management from both groups, so it seems as though the Story Map helped to bring across the message well enough that readers recognised it. There were also responses to the question where respondents from the cat owner group mentioned that there was no change to how they felt about their cats.

#### 4.3.3 Inclusiveness of Narrative

It was important to my intention that the Story Map was inclusive for cat owners. I wanted the readers to be able to identify with the stories and ideas, and not to be alienated (e.g. turned away if they felt attacked). A set of questions therefore queried whether readers felt included, or wanted to add more of themselves and stories into the Story Map. It also asked how the readers felt about how cats were portrayed (as if they were seen in a negative light, the readers might be less likely to want to engage with the Story Map).

*Q1: Do you feel like the tone was inclusive (not confrontational?)*

In the cat owner consult group 89% (33/37) of respondents answered that they thought the tone was inclusive. 11% answered that they did not think this was the case or that they were unsure.

In the conservation professionals consult group 100% of respondents thought that the tone was inclusive. For example, one noted they *"didn't feel it was pushing any particular message; simply presenting the facts/stories and letting the reader make up their own mind"*. Another respondent, however, mentioned that while they thought it was inclusive, they believed there would be others in the public who would dispute that.



*Q2: How did you feel about the way cats were portrayed in this resource?*

In the cat owner consult group, 73% (27/37) of respondents answered that they thought that cats were portrayed in a neutral or fair way. Other participants stated that they thought it was pro-cats (8%), or anti-cat/negatively portraying cats (14%) or were unsure (5%). The respondents from the conservation professional consult group believed that the Story Map was promoting cats (43%) and portrayed fairly/equally to how they exist in the ecosystem (57%). For example, one professional thought that the Story Map portrayed cats *“in a positive light, however still outlining the negative effects they have”*. There were a few respondents in the cat owner group who thought cats were portrayed in a negative light, for example, *“parts of the resource seemed to be demonising them even if the intention was not there”*.

*Q3: Would you like to be able to add to this resource yourself?*

Within the cat owner consult group, 47% (18/36) stated that they would not like to add to the resource. Other respondents said they would like to contribute to the resource in some way (31%) or that they may like to contribute but were unsure (17%). Most respondents in the professional group said that they would not like to add to the resource themselves (86%), and 14% said maybe. It appears as though the Story Map is better suited to not having readers directly add their own stories. This could be done in a different way that compliments the Story Map, but not as a direct part of it, such as a blog or other social media channel. It would also have to be monitored and maintained on a separate linked site as the Story Maps apps do not allow users to directly comment on them.

4.3.4 Opinions about cat ownership:

These questions were asked to gauge people's opinions and ideas about cats, in order to help guide future communications. Roaming cats impact native wildlife, and the containment story presented an alternative to letting cats have free access to the outdoors at all times. Asking about perceptions about roaming cats could help identify reasons owners allow their cats to roam. The cat owner group was

also asked about their specific ownership behaviours in relation to keeping their cats indoors, and whether they had desexed/microchipped their cats. Because all these topics were explored in the Story Map, I thought it would be interesting to see which types of responsible cat ownership respondents were already engaged in. Further questions asked why people thought that others did not microchip and/or desex their cats. This information can help communicators better understand barriers to responsible cat ownership. Respondents were also asked whether people thought people feeding stray cats should be responsible for the cat's health care. This was asked because of the Cat Rescue Management strategy mentions needing to know more about New Zealander's attitudes towards stray cats, including the intentions of stray cat carers. It was intended for this question to assess who people thought should be responsible for stray cats, especially as some of the public are against control or management of stray cat populations. The final question queried the future of cat ownership in New Zealand. Because this is such a debated and often talked about subject, it was interesting to see what cat owners and conservation workers alike thought would happen in the future and if respondents were resistant or open to change.

*Q1: Do you think cats should be allowed to roam free in New Zealand and do you have any concerns about roaming cats?*

In the cat owner consult group, 37% (14/38) of respondents said that yes, cats should be allowed to roam, whereas 32% said that no, cats should not be allowed to roam free and 11% were unsure. A further 16% of respondents stipulated that cats should be allowed to roam if something else was done first, e.g. *"I believe if cats are going to be allowed outside, that they should be required to be inside at night at least"* and *"Not where there is a native bird population"*. There were also 16% of respondents who mentioned that keeping cats contained all the time is *"cruel" / "unfair" / "mean"*. A further 21% said that cats need to be kept inside for the *"wildlife" / "nature"*. There were also 11% of respondents in this group who mentioned that it was more important to tackle the issue of desexing all cats before the topic of containment was approached, and 16% mentioned something about dogs in their answer.

In the conservation professionals group, 100% of respondents said that no, they didn't believe they should be allowed to roam free. For example, *"I believe NZ needs to start thinking of a NATIONAL plan that encompasses some type of containment. It needs to be a national initiative. A behaviour change based around the benefits of containment as opposed to all the negative stats around cats and wildlife"*. Themes that were brought up included dogs, e.g. *"cats should be subject to the same controls as dogs"* (43%), wildlife, e.g. *"clearly even domestic cats can have a negative impact on native wildlife"* (43%) as well as increased welfare through containment (14%).

Thus the conservation professionals were more opposed to the idea of cats roaming free compared to the cat owners. The themes of welfare and cruelty associated with confinement came through with the cat owner group. However, both groups mentioned wildlife in their answers, and dogs were brought up by both groups too. For example, *"it's odd that we have these different rules for dogs which are totally acceptable"* and *"cats should HAVE to be microchipped by law and I think they should have to wear collars – the same as dogs"*.

*Q2: Do you keep your cats contained for some parts of the day and if yes, then when?*

In the cat owner consult group, 58% (22/38) of respondents said that they did keep their cats contained for some parts of the day, whereas 39% said that they do not. In total there was 47% of respondents who mentioned that they kept their cats inside at least during the night time. There was also 21% of respondents who mentioned that while they do not intentionally contain their cats, they believe that their cats contain themselves, e.g. *"my cats are older now and stay indoors of their own free will"* and *"she is free to come and go as she pleases, she does spend probably 50% minimum in the house"*. It is interesting that cats were mostly contained at night-time. It is recommended by some to keep cats indoors when their prey is most active, which is normally dawn and dusk (Heath, 2007). However, night-time is also a dangerous time for cats and their welfare, in relation to being hit by cars.

*Q3: Have you desexed and/or microchipped your cat(s)?*

In the cat owner consult group, 97% (37/38) of respondents had desexed their cats, there were only 3% who had not, however they responded that they were “*in the process*”. Fewer indicated they had microchipped their cats (89%, 34/38) and 11% had not. However one respondent was also in the process of getting their cat microchipped and another owner’s answers implied they were now considering microchipping their cat after reading the Story Map, e.g. “*not microchipped may have to do that*”. The lower rate of microchipping than desexing may be for a number of reasons, which are explored in the next two questions, that were again directed at both consult groups.

*Q4: What do you think is the main reason for people not microchipping their cats?*

In the cat owner consult group, 77% (27/35) of respondents said that they thought given cost was the main reason that people did not microchip their cats. The other reasons included “*ignorance*”/”*stupidity*” (31%), not being required to legally (14%), “*laziness*”/”*effort*”/”*hassle*” (29%), “*scared about hurting their cat*”/”*invasiveness*” ( 9%) and “*not caring about the cat*” (11%). In the conservation professional group, the main reasons that were proposed were “*ignorance*” (57%), “*cost*” (57%), “*not being required to legally*” (43%), “*being lazy*” (14%) and from a “*lack of responsibility*” (14%). Thus, the main themes that came through in this question were cost and stupidity/ignorance.

*Q5: What do you think is the main reason for people not desexing their cats?*

The cat owner consult group identified the main reasons again as (36) “*money*”/”*cost*” (72%). The other reasons were also similar to those given for barriers to microchipping: “*laziness*” (31%), “*stupidity*”/”*ignorance*” (33%), as well as wanting their cat to have kittens (28%), “*irresponsibly*” (11%), concern for their cats (8%), not caring about their cat (6%) and lack of ability to take their cat to the vet (6%).

Similarly, in the conservation professional group, the main reasons that were mentioned were money/cost (71%), ignorance (29%), wanting kittens (29%), not legally having to (14%) and not being responsible (14%). The main themes that came through for this question were the same as microchipping, cost and ignorance/stupidity. People also mentioned wanting the cat to have kittens, and noted a variety of reasons including that it was “*natural to do so*”, or it changed the temperament of the cat for the better.

*Q6: Do you think people who feed stray cats should be responsible for their health care? Why?*

The cat owner consult group mentioned that 41% (15/37) thought that if you feed a stray cat you should be responsible for their health care, while 32% were unsure and 24% said no. Similarly, 43% of respondents in the conservation professional group said yes, 29% said that there should not be stray cats or we shouldn't feed them in the first place and 29% of respondents said no. This illustrates that there may be a need for more information about cat welfare, and how feeding stray cats can perpetuate the stray cat problem if the cats are not desexed and looked after. People may believe they are being kind, but are in fact making the stray cat problem worse.

*Q7: How do you see cat ownership moving in the future? Do you think it will change or stay the same?*

There were 68% (25/37) of respondents in the cat ownership consult group who mentioned that they thought there would be some type of change in terms of cat ownership, e.g. “*It will change and evolve as all things do when we start talking about it. I remember dogs roaming all over our neighbourhood when I was a child. It rarely happens now and if you see a dog you tend to assume it has escaped and got lost. I don't think our love and fascination for cats will ever stop. But I think our understanding of cats will deepen to enable us to make better decisions on how we cohabitate*”. The most frequently suggested ways that respondents thought cat ownership would change included “*less cats*”/“*cat owners*” (68%, 17/25),

*“compulsory registration”* (24%), *“more indoor”/“contained cats”* (20%), *“more desexed cats”* (20%), *“more restrictions”/“rules”* (16%) and *“less breeders”* (8%). A further 27% of respondents said that they thought there would be no change in cat ownership in the future.

In contrast, 100% of respondents in the conservation professionals group said that they thought there would be change in the future of cat ownership. The themes that emerged were *“change in laws”/“rules”* (57%), more focus on *“environment”/“Predator Free NZ”* (43%), that change would be slow (43%), there would be *“less cat owners”* (14%), cats would *“have to be registered”* (14%), *“desexed”* (14%), *“microchipped”* (14%) and/or *“contained”* (14%).

The main themes that came through for this question were similar to what responsible cat ownership consists of according to the National Cat Management Strategy (desexing, microchipping, containment and registration) (National Cat Management Strategy Group, 2017). The conservation professional group mentioned that there would be more focus on the environment which was not a theme that came up in the cat owner group. The main theme that came out of cat owners (who thought that there would be a change in the future) was that they thought there would be less people owning cats, or less cats per household.

#### 4.4 Unsolicited Facebook comments

As the link was sent to participants and as it was on public view within the app, anyone who had the link had access to view it. One of the participants posted the link on a Facebook post titled “NZ against the Cat Ban” which was formed in August 2018 in response to “the possible cat ban in Omaui”. I was notified about this via email as the participant thought I may like to view the comments.

There were 11 comments in total on this Facebook post. The first comment was posted at 10:20am on the 5<sup>th</sup> of September 2018 and the last comment was posted at 9:15pm on the 8<sup>th</sup> September. There were three separate threads on comments in the post, with two comments in one, four comments in another and 15 comments on the last. The participant posted the link with the words *“I’m*

*participating in a study to evaluate this resource. What do you guys think?"* Most comments were one-three sentences, however there were about five comments which were long paragraphs worth of text.

The main themes which emerged in the comments included: Predator Free New Zealand, money, lies/misinformation, trust, rules/laws, Gareth Morgan, preachy/condescending, danger/hate/anti-cat and responsibly. (See Table 2 for further emergent themes.) It is interesting to note that the first few comments in the thread were not overly negative, for example, *"I'll let you know my opinion when I'm done. But so far I don't feel negative about it"*. But as more negative comments came in, the more the commenters backed up and supported what one another had to say, which left only one positive comment amongst all the negative.

Table Two. Codes and Themes Identified in Unsolicited Facebook Comments.

Code/Theme	Meaning	Example Quote
Predator Free NZ	The topic of predator free New Zealand was brought up, due to the title of the first story in the Story Map. There is obviously a distrust of Predator Free NZ within this Facebook group, and so it caused people to get upset or not engage in the Story Map.	<i>"I see predatorfreenz.... That's enough for me"</i> .
Money	There were comments which stated that people were only participating in cat management and conservation because they were greedy and wanted to make money out of it, or	<i>"Yes, the Morgan's are behind all the cat hate and encouraging the cat hate with bullshit and money"</i> .

	because they were being paid. This was often paired with the theme of Gareth Morgan.	
Lies/Misinformation	This theme was mentioned in relation to not believing or accepting the research about cats, or that misinformation about cats was being spread to help encourage cat hate.	<i>"Forget it. It begins with the false premise that cats are a danger to bird life and therefore may only be allowed to live if 'monitored' by 'responsible cat owners'"</i> .
Trust	Trust was brought up in these comments. This was either in relation to not trusting the information in the Story Map or not trusting the author.	<i>"Is the author an independent voice of reason or has the resource been commissioned by a group with an interest in achieving a specific outcome?"</i>
Rules/Laws	There were comments about the implications that responsible cat ownership will bring in new laws which they were opposed to.	<i>"We are a democratic society and all these rules being imposed is just the beginning NZ gone mad being over-legislated, rights gone in the pretext of caring"</i> .
Gareth Morgan	Gareth Morgan was a theme that came up a lot in the Facebook thread. He and	<i>"No it won't be best to get out of this. You will only be helping</i>



	his family were brought up in a negative light.	<i>the Morganites and the haters of cats".</i>
Preachy/Condescending	The Story Map was described as being preachy.	<i>"It comes across as preachy and one-sided in favour of the anti-cat agenda".</i>
Danger/Hate/Anti-Cat	There were few comments that fit into the theme of danger, hate or being an anti-cat piece of work. It seems people react this way as they believe hate against cats will increase the amount of abuse and violence towards them if public perception changes.	<i>"This is not about caring. This is over zealous people feeding BS to gullible people because they are anti-cat and they're trying to come at you from another angle to tie people down to what they want. They hate pets, they have no tolerance of animal lovers and zero-patience. They have fostered a kill mentality in our NZ people already with dogs being snatched off properties, cats being shot and killed, both cats and dogs disappearing".</i>
Responsibility	There was one comment in favour of the Story Map, and who backed up many of	<i>"We should all take responsibility about where our pets are..."</i>

	<p>the ideas that were presented in the resource. There were also comments about how ‘responsibility’ isn’t needed as it places blame on the cats.</p>	<p><i>how they may perhaps be impacting others... for instance, (sic) spey/neuter”.</i></p>
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## 4.5 Limitations of Consultation Process

### 4.5.1 Viewing the Story Map on Mobile Devices

It was discovered that while Story Map is supported by mobile and computer viewing, it is much better suited being viewed on a computer ( Figures 25 and 26). Map series does not show the tabs when in mobile mode, rather the user must swipe across.

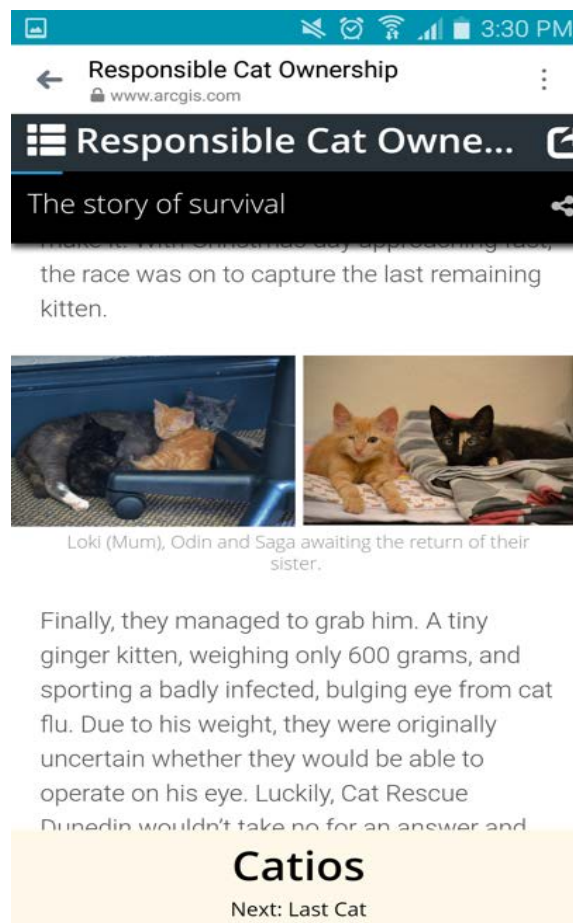


Figure 26: Screenshot of mobile view

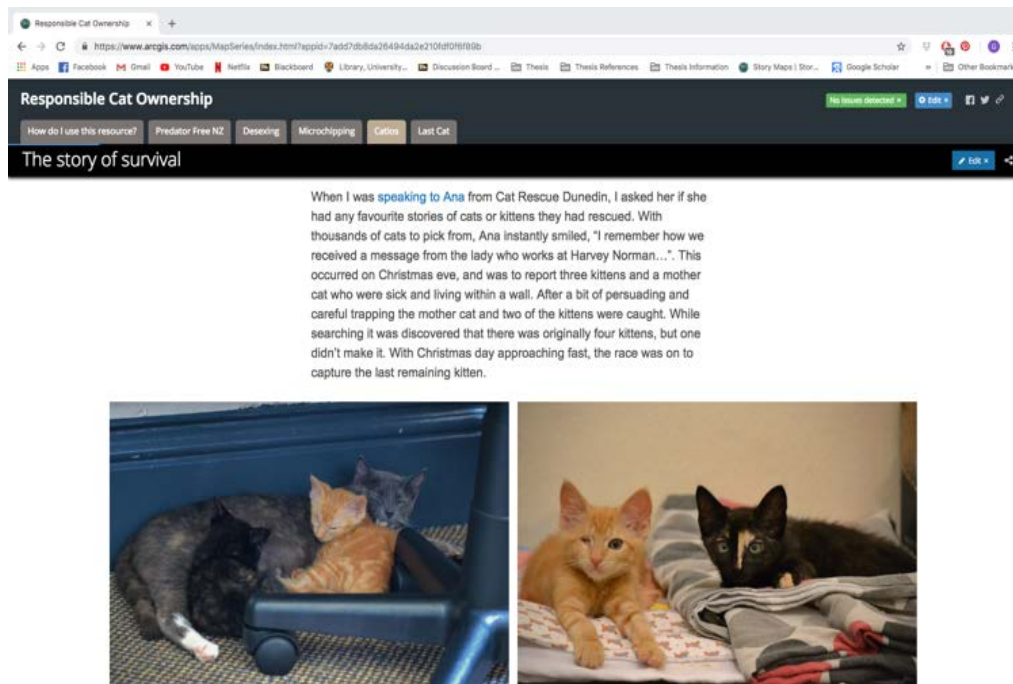


Figure 27: Screenshot of computer view

There was at least one potential respondent who chose not to do the survey because they had difficulty viewing the Story Map. A quote from their email was *"Unfortunately I can't seem to click on the tabs to read the stories on my iPhone"*. Even when provided with help, they chose not to reply and participate. It is unknown if any other respondents tried to view this on their phone and found it too difficult to complete. It was recommended in the email that a computer was used to view the Story Map, and while there were some who carried it out via mobile or tablet, the majority of respondents viewed on a computer. The videos also do not work on the mobile version, and instead show a still photograph (selected during the Story Map design process) (Figure 27).

There was also potential bias in recruiting participants off a cat group as they may more passionate cat owners than if the group was not cat related. There was a potential bias with the majority of respondents being from Wellington. Wellington is a very eco-conscious city and has a by-law stating you must microchip your cats in Wellington City and so it is possible these people were more aware of responsible cat ownership.

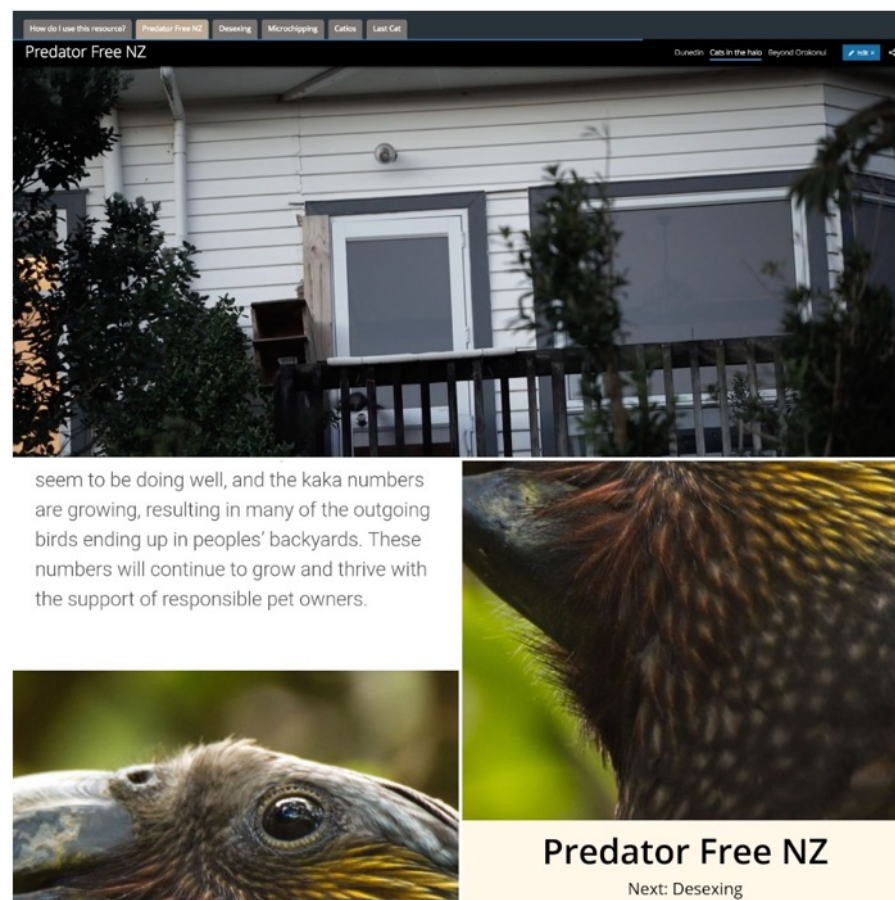


Figure 28: Screenshots of computer view (top) and mobile view (bottom) of immersive video

#### 4.5.2 Interpretation of Questions and Reading of Complete Story Map

There were some questions where not all participants answered, or they answered in a way that showed they had read the question incorrectly. For example, in the question ‘Why do you think is the main reason for people not microchipping their cats?’ one person answered *“Identification, so people can tell she is a loved pet”*. The question, “How do you see cat ownership moving in the future” was also interpreted by some respondents as being about their own personal ownership, for example *“I have no intention of getting another while I have Sasha, would probably only consider getting one in the future if one needed rescuing or somehow crossed my path”*. This question could have been worded so it was more obvious, like ‘How do you see cat ownership in New Zealand moving in the future’.

It is also unknown whether the two consult groups were mutually exclusive. There was at least one known person in the conservation professionals group who owned a cat. There is also the possibility that some respondents in the cat owner group are working in conservation or cat management. The survey questions could have asked respondents further about their experience. It is unlikely that these cross overs would have any significant effect on the results however.

It is also impossible to tell if the respondents read the Story Map in its entirety, or simply skimmed over it. The idea of inviting people to view the Story Map in a controlled environment was considered, however due to its length it was decided to let participants read it in their own time and space.

#### 4.6 Future Communications

It has been shown through these results that ArcGIS Story Map can be used to create engaging, narrative based stories that are well received. It can be concluded that the Story Map was an engaging communication tool to promote responsible cat ownership.

In the future, it would be useful to revise the length of some sections or to provide a shorter summary page at the beginning of each new topic or section in addition to this length of information. The length is needed to create a compelling story and to introduce and flesh out the characters, for example *"Pleased that it wasn't like a lightweight magazine cut n paste article"*. However, if this content is meant to be shared on social media then it is better for it to be shorter as most social media sites rely on micro-blogging, which is where users post short status updates (Kietzmann, Hermkens, McCarthy and Silvestre, 2011).

The use of photos and personal stories were also well received and should be used to help promote other conservation and cat management communications. These allow readers to get personal and involved in the story and will help them to identify with these ideas in their own lives. While I included the immersive scrolling as a design to make the Story Map more engaging, there was only one

comment which identified this as something the reader enjoyed. Readers also seemed to misunderstand how the immersive scrolling worked and were confused when the photos were in place as they scrolled. While I think the scrolling did make the Story Map easy to navigate, I think a better explanation of the scrolling would allow readers to enjoy this function more.

## Conclusion

The first part of this thesis introduced the effects that domestic, stray and feral cats have on New Zealand's ecosystem. It then examined ways that this topic can be communicated to the general public, including positive framing and personal stories. It reviewed different ways of presenting information on digital multi-media platforms, like through immersive scrolling, infographics and videos. This background provided context for my subsequent description of the creative component of my thesis, an ArcGIS Story Map which aimed to explore responsible cat ownership and ways it can be implemented by cat owners.

Management options about stray and feral cats are often met with confusion, anger and opposition by the general public, including cat owners. This can be because the terms defining feral, stray and domestic are messy and often interchangeable, in some cases cat owners believe their companion cats may be at risk through cat management practises. Because cats pose a threat to New Zealand's native wildlife, it is essential that management is carried out to control their numbers and thus impact on endangered species. Therefore, an experimental communication avenue was trialled to promote responsible cat ownership with the emphasis on cat welfare.

Using personal stories and anecdotes from people in the community to help readers to identify and engage with the topic, the creative element of this thesis used five stories, to cover the subjects of Predator Free New Zealand/conservation, desexing, microchipping, containment and the idea of a 'last cat'. Many of these elements of responsible cat ownership were drawn from the Cat Management Strategy (National Cat Management Strategy Group, 2017). Each story used a scrolling navigation, with a bar up the top which allowed limited navigation between select sections. The stories consisted of written text, photographs, videos, infographics and immersive scrolling. These stories presented ideas from both the scientific (e.g. conservation) literature and from people in the cat management and conservation communities.

The evaluation of this Story Map resource by cat owners and conservation professionals aimed to explore how to best communicate a emotive topic while encouraging the target audience to be open to new ideas. Analysis of feedback from both cat owners and conservation professionals provided support for my Story Map approach for presenting information was engaging to both cat owners and professionals. The use of photographs and personal stories in the Story Map were the most popular aspects among the participants. The central criticism was that certain sections were too long, or could be improved with a summary at the beginning of each story. A similar resource could implement this suggestion as well as potentially create another resource to accompany the Story Map that was shorter and easier to share. This could then link to the Story Map if owners wanted to get more information on various areas of responsible cat ownership. Future cat management communications should ensure that they create stories that feature people in the community who are already carrying out these behaviours associated with responsible cat ownership. Communications should also remain positive towards cats, and focus on increasing cat welfare.

Even though best practice suggests trying ideas like personal stories, it was obvious from the unsolicited social media post in this thesis that in the face of social media it is difficult to get everyone on board with these ideas. While it is an uphill battle, we need to remain engaged and continue to explore creative methods of reaching people in order to communicate about emotive and confrontational topics like responsible cat ownership and cat management.



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## Appendices

## Appendix A: Ethics Approval, Ethics Forms and Information Sheets



**D18/305**

Academic Services  
Manager, Academic Committees, Mr Gary Witte

14 September 2018

Dr J Rock  
Centre for Science Communication  
133 Union St East

Dear Dr Rock,

I am writing to let you know that, at its recent meeting, the Ethics Committee received a copy of the Reporting Sheet relating to your Category B ethics proposal entitled **"Building alternative communications about cat management in New Zealand"**.

For your future reference, the Ethics Committee's reference code for this project is:- **D18/305**.

The Committee appreciates that Category B proposals may commence as soon as approval has been obtained at departmental level and that, in some instances, the research or teaching may be well advanced or even completed by the time the Reporting Sheet is received by the Committee.

In the case of this particular proposal (**D18/305**), the Ethics Committee has recorded its status as **Approved HOD**, and has asked me to pass on its views to you as follows:-

***Information Sheet - students should not share their personal contact information***

*The Committee noted that the student researcher has providing her personal gmail address in the information sheet. For a number of safety and data security reasons, the Committee requests that students only use their Otago student email address for research purposes.*

Where the Committee has commented, a written response is expected. Where any amendment to your documentation has been requested, please provide a copy of the amended documentation to attach to the record of the application. Please note that the Committee is always willing to enter into dialogue over the points made.



Form Updated: July 2018

**UNIVERSITY OF OTAGO HUMAN ETHICS COMMITTEE  
APPLICATION FORM: CATEGORY B**

**(Departmental Approval)**

Please ensure you are using the latest application form available from:  
<http://www.otago.ac.nz/council/committees/committees/HumanEthicsCommittees.html>

**1. University of Otago staff member responsible for project:**

Rock, Jenny, Dr

**2. Department/School:**

Science Communication

**3. Contact details of staff member responsible (always include your email address):**

Jenny.rock@otago.ac.nz, 479-5014

**4. Title of project:**

Building alternative communications about cat management in New Zealand

**5. Indicate type of project and names of other investigators and students:**

Staff Research ☐ Names

Student Research ☒ Names

Level of Study (e.g. PhD, Masters, Hons)

External Research/ ☐ Names

Collaboration  
Institute/Company

6. When will recruitment and data collection commence?

10 September 2018

When will data collection be completed?

20 October 2018

7. Brief description in lay terms of the aim of the project, and outline of the research questions that will be answered (approx. 200 words):

*Cat management in New Zealand is a highly emotive topic and it can be difficult to get people to listen or take action. The aim of this research is to get feedback on a multimedia resource that has been created about cat management. The content focuses on responsible cat ownership and ways owners can better manage their cats, for the cat's welfare as well as benefitting wildlife. It provides multiple pragmatic solutions for cat owners to implement to assist the transition to active cat management. The research will help guide the revision of this resource, with the intent for it to be shared with the general public by organisations in support of the Predator Free 2050 initiative.*

*Gini's research will include consulting with key people in the cat management field, as well as a sampling of cat owners. It will interrogate how they find the resource functions, from content coverage to inclusivity and other aspects. It will also query how they find using the platform (ArcGIS StoryMap), which is used to make and host the resource.*

8. Brief description of the method. Include a description of who the participants are, how the participants will be recruited, and what they will be asked to do and how the data will be used and stored (Note: if this research involves **patient data or health information** obtained from the Ministry of Health, DHBs etc please refer to the UOHEC(H) Minimal Risk Health Research - Audit and Audit related studies):-

*Participants will consist of two groups, but all will live in New Zealand and be over the age of 18. One group will include a sampling of cat owners, which will be sourced from active 'cat groups' on social media. People will be asked to volunteer to participate. The other group will include key experts in the field of cat management. Some will be researchers already included in content within the resource, as well as council workers, non-profit professionals etc Dunedin and Wellington. As the research questions are free-response, requiring in depth qualitative analysis, the groups will be limited in size: ~ 10-20 people in the expert group and ~25 to a maximum of 50 people in the cat owner group.*

*Participants in the expert group will be recruited via email from existing contact lists. If interested in viewing the resource and commenting on it, they will then be given the option of answering the questions either by email, or in person or on the phone. Participants in the cat owner group will be invited to volunteer through advertisements on social media sites. If interested, they will respond via email to receive access to the resource and the questions. They can choose to respond to the questions via email or phone. As an incentive to participate, there will be a draw of participants who submit their email to win vouchers to either New World supermarkets or Animates pet stores.*

*If consulted in person (i.e. with expert group) or over the phone (either group), the interview will be recorded and then transcribed. The data collected will not be linked to participants individually, thus it will be reported in the thesis in a non-attributable manner. Primary data will be destroyed at the conclusion of the research.*

Reporting Sheet for use ONLY for proposals considered at departmental level

9. **Disclose and discuss any potential problems and how they will be managed:** (For example: medical/legal problems, issues with disclosure, conflict of interest, safety of the researcher, safeguards to participant anonymity if open access to data is proposed etc)

*No problems foreseen*

\*Applicant's Signature: 

Name (please print): *Jennifer Zerk*

Date: *3 Sept 18*

*\*The signatory should be the staff member detailed at Question 1.*

**ACTION TAKEN**

☒

Approved by HOD

☐

Approved by Departmental Ethics Committee

☐

Referred to UO Human Ethics Committee

Signature of \*\*Head of Department: 

Name of HOD (please print): *FARZÉN MEDVECHT*

Date: *7/9/18*

*UNDER DELEGATED  
AUTHORITY OF  
HOD*

**Departmental approval:** *I have read this application and believe it to be valid research and ethically sound. I approve the research design. The research proposed in this application is compatible with the University of Otago policies and I give my approval and consent for the application to be forwarded to the University of Otago Human Ethics Committee (to be reported to the next meeting).*

**IMPORTANT NOTE:** As soon as this proposal has been considered and approved at departmental level, the completed form, together with copies of any Information Sheet, Consent Form, recruitment advertisement for participants, and survey or questionnaire should be forwarded to the Manager, Academic Committees or the Academic Committees Administrator, Academic Committees, Rooms G22, or G26, Ground Floor, Clocktower Building, or scanned and emailed to either [gary.witte@otago.ac.nz](mailto:gary.witte@otago.ac.nz) or [jane.hinkley@otago.ac.nz](mailto:jane.hinkley@otago.ac.nz)

**Reporting Sheet for use ONLY for proposals considered at departmental level**

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**Questions**

Demographic data will be brief:

the expert group will be asked what their professional position is;

the cat owner group will be asked their age, gender, city/town, and the names and ages of their cat(s).

Function of Resource:

1. What part of the resource did you enjoy the most?
2. What part of the resource was most memorable to you?
3. Did you find the resource easy to navigate?
4. What was your favourite type of media in the resource and why?
5. What problems did you find?
6. Would you read this content if you came across it on social media?
7. Would you share this content with others?
8. Did you find it entertaining: was it interesting to read and did it hold your attention?

Coverage of Resource:

1. What do you think the overall message of the resource is?
2. What did you think about each chapter – did they fully cover each topic?
3. Was there anything else you wish was covered?
4. How did you feel about the length of the content?
5. How did you feel about the use of characters and personal stories?
6. Do you think there needs to be more information specifically on the effect of cats on wildlife?
7. How does this piece make you feel about cats?

Inclusivity of Resource:

1. Do you feel like the tone was inclusive (not confrontational)?
2. How did you feel about the way cats were portrayed in this resource?
3. Would you like to be able to add to this resource yourself -with your own stories or perspectives?

Your perspectives on cats in New Zealand:

1. Do you feel that cats should be allowed to roam free in NZ and do you have any concerns about roaming cats?
2. Do you keep your cats contained for some parts of the day and if yes, when?
3. Have you desexed and/or microchipped your cats?
4. What do you think is the main reason for people not desexing their cats?
5. What do you think is the main reason for people not microchipping their cats?
6. Do you think people who feed stray cats should be responsible for their health care too? Why?
7. How do you see the future of cat ownership in NZ - do you think it will change, and if so how?





## **RESPONSIBLE CAT MANAGEMENT RESOURCE INFORMATION SHEET FOR PARTICIPANTS**

### **What is the Aim of the Project?**

*This project aims to get feedback on a multimedia resource that has been created to raise awareness about cat management in New Zealand. The feedback will help to guide the revision of this resource, with the intent for it to be shared with the general public by organisations in support of the Predator Free 2050 initiative. This project is being undertaken as part of the requirements for Gini Letham's Masters in Science Communication.*

### **What Types of Participants are being sought?**

*Participants will be distributed throughout New Zealand, but mainly focused in the Dunedin and Wellington areas. Participants will be volunteers, and contacted either through email or social media pages. The project will include both key experts in the field of cat management (~10-20 people) and cat owners (~25-50 people).*

### **What will Participants be asked to do?**

*If you agree to take part in this project, you will be asked to read the resource that has been created, and then answer a series of questions. The resource will be provided via email through a link, and the questions will be attached to the email. The responses to the questions can be any length, and go into as much detail as you choose.*

*If you complete and return your responses by the 1/10/18 then you will go in the draw to win either New World or Animates gift vouchers.*

### **What Data or Information will be collected and what use will be made of it?**

*Content of the responses will be analysed and described as part of a Masters thesis in Science Communication. Written responses may be quoted in the thesis, but no identifiers will be used at any point in the aforementioned process. Any personal information (i.e. email addresses) held on the participants will be destroyed at the completion of the gift voucher draw. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand) but anonymity will be maintained.*

### **Can Participants change their mind and withdraw from the project?**

*You may withdraw from participation in the survey at any time and without any disadvantage to yourself.*

### **What if Participants have any Questions?**

*If you have any questions about our project, either now or in the future, please feel free to contact either:- Gini Letham or Dr Jenny Rock*

*Department of Science Communication, University of Otago*

*[gini letham@gmail.com](mailto:gini letham@gmail.com)*

*[jenny.rock@otago.ac.nz](mailto:jenny.rock@otago.ac.nz)*

*This study has been approved by the Department stated above. However, if you have any concerns about the ethical conduct of the research you may contact the University of Otago Human Ethics Committee through the Human Ethics Committee Administrator (ph 03 479-8256). Any issues you raise will be treated in confidence and investigated and you will be informed of the outcome.*

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**INDICATION OF CONSENT FROM PARTICIPANTS**

Thank you for showing an interest in this project. Please read this information sheet before deciding whether or not to participate. If you decide not to take part there will be no disadvantage to you and we thank you for considering our request.

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. My participation in the survey is entirely voluntary;
2. I am free to withdraw from the survey at any time without any disadvantage;
3. Personal identifying information will be destroyed at the conclusion of the gift voucher draw, and anonymised data will be destroyed at the end of the project;
4. The results of the project may be published and will be available in the University of Otago Library (Dunedin, New Zealand).

I agree to take part in this project. My consent is indicated by my action of returning a completed answer sheet to Gini Letham.

## Appendix B: Participant Answers (Cat Owners)

### What part of the resource did you enjoy the most?

It was all very interesting, I am not sure I could pick a part that I enjoyed most. | All of it. | I really enjoyed reading the Predator Free NZ part of the resource. | It was really informative | I enjoyed the part about Helen's homemade catio as I think this is a great idea, and shows people it doesn't need to be difficult to make. | Reading about the sanctuary in Dunedin | Seeing the cat pictures and some of the nice stories. | desexing | I enjoyed the story about the catios and the 'taxi' | The section on microchipping | Catios & Last Cat | The photos and the rescue stories | The pictures of the cats and the videos. | The Halo Project | ? I like the graphics used to illustrate points (e.g. showing how many kittens one cat could produce) | I enjoyed the catios, very novel idea to give them outdoor time without the risks of outdoor. | The photos + videos. They made it seem less like I was reading a long boring article and something a bit more interactive and interesting | The little films and the photos, the personal stories were also really heart warming | The relatable stories. | Is it bad to say the pictures? I really enjoyed how it was so informative. I learnt a lot of new things. | Just reading the material | All of it! | Predator free NZ. We are very interested in setting up traps on our section, but haven't considered too much the impact of the cat. | I enjoyed the personal aspect of the resources. Which included the personal stories of both the author and well-known and trusted animal advocates in society. Plus, the cute photos and videos of the cats. | The section about predator free NZ | Reading about Orokonui | I really enjoyed the overall non-judgmental tone and I thought the videos were well-placed, well-timed, and very fun to watch | Cat Rescue Dunedin | Photos of cats | I found the predator free nz section very interesting | I very much liked the section on the conservation project near Dunedin, and the lengths to which predators have been kept out, allowing the birds to flourish. | Variety of information | All | The story of survival as it contained some great ideas to keep cats safe. I lost my 18 month old Ragdoll Benji in May of this year when he was hit by a car, 1<sup>st</sup> cat I've ever lost this way! | I loved the stories from different people | The ease of flow | Photos | the writing and writing style

### What part of the resource was most memorable to you?

The page about Catio's. I have often thought about making one for my own cats – if I ever own my own home. | The story of Helen Bachari. | Most memorable would have to be either Desexing or Catios. | Detail of the sanctuary in Dunedin | The Last Cat, I don't know whether to think it is sensible or preposterous idea! | Above as I had no idea it existed (Orokonui) | Unfortunately the tone throughout on the emphasis on predator free nz, I would have been more likely to get behind this as a concept if the focus was primarily focussed on responsible cat ownership for the safety of the cat, with the predator free nz as one outcome. | catios | The stories shared | Catios' | Last Cat | The photos and the happy endings for abandoned kittens and cats | The section on catios? I have only recently heard about them (FB Cats of Wellington page). | The study undertaken in relation to the 36 cats and the distance they traversed. | Reminding people that microchipping is cheap, easy and relatively painless for the cat. And the importance of this in the case of natural events, such as earthquakes. | The chapter with the microchips and the numbers of cats that were that were reunited after the earthquake in chch. | The Last Cat | I liked the story about the one eyed ginger cat that was rescued and rehomed! I liked the way the comparison to the dogs was drawn - it made to issue more relatable and memorable | The pictures to be honest, they're held my attention as I'm definitely a visual learner. | The idea of the last cat | The cat rescue part as I have dealt with them in the past | The Bird Sanctuary | Microchipping – also something we haven't done yet. | Probably the story of Helen Bachari, as what she did in creating a cat enclosure was such a smart and innovative idea that I had never heard or even thought about before. Spreading ideas like this is really beneficial to everyone. | The section about desexing, and the part about Ana and Cat Rescue Dunedin. | Reducing cat numbers could actually work. It's time to think about cats now. Multiple things were memorable. | The stories about microchipped cats coming home – amazing! | The

section on Last Cat – in a very negative way | The catio's page as it was anecdotal and personal | the last cat page – made me think about my current cat being my last cat | The story of Baldur | Last cat as I've lived with cats all my life and can't imagine not owning a cat. My parents for a kitten when I was 6 months old and she lived to 24 years old! | The stories | Great photos! | The vet cost at the cat rescue | the photos |

#### **Did you find the resource easy to navigate?**

Yes very easy. | Yes. | Yes, I did find it easy to navigate, however, with the videos going full screen, it took a bit to scroll down to the next part of the text. | Yes. | Yes, very | Yes | Pretty much. | Yes | Yes very easy | Very easy to navigate and well designed (Articulate Rise?) | Yes very | Yep | It was very easy and visually attractive. | Very easy. | Yes, on the laptop, the main sections were easy to navigate using the menu at the top and sub sections were easy to click to on the top right. Similar navigation was easy to use on the mobile version too. | Very easy to navigate, I especially liked that once you got on a topic you could just keep scrolling down. | Yes | Very easy to navigate, it all made sense and was presented in a logical way | Yes | Yes | Reasonably | Yes very easy. | Yes, very user friendly. | Yes, it was mostly easy to navigate sometimes it would get stuck on the videos a bit before it would react to me trying to scroll onwards. | Yes | Yes, had to make sure I waited for all pages to load so I didn't skip anything. | Yes, very! But I am familiar with arcgis from class | Average | Yes, it is simple and straight forward | Yes | Yes, it was well -laid-out. | Yes | Yes | Yes | Yes. It is very user-friendly | Yes | Easy to navigate although slow to load | on computer, yes; phone, no ( I'm old...)

#### **What was your favourite type of media in the resource and why?**

Honestly... the pictures of the cats... I'm too much of a crazy cat lady. | All. | I enjoyed the photos. | The written detail. It was really interesting and informative | I liked use photo images which put names to faces throughout the resource | The content | Pictures and videos. | Reading | I liked the videos easy to view and interesting | The images were great to see and good quality | The photos | The photos | The photos and videos of the cats. They reinforced the notion that this was not an anti-cat website but rather one that was encouraging the careful management of pets so that native animals were not threatened. | The images | I enjoyed that you supplemented the writing with pictures to break it up and make it more easy to stay engaged with | The photos | The film clips with music - they were easy to watch and emphasised the point - particularly the one about the catios. | Not sure what this means! | Where you had a photo and you would continue scrolling and the photos would stay and then text would show up. A fresh way to just constant scrolling. | I did enjoy the pictures of cats | I enjoyed it all it was very well put together. | N/A | Still in saying that I would say my favourite part of media was the videos. As it clearly showed what you were saying in the text and I'm more of a visual learner, so pairing it with the text worked well. | Photographs. They were large (landscape wise) and helped to break up the text. | Don't know if you means the pages and layout? I like the cat and bird photos. The info of the sanctuaries. I don't know what different media was used. Sorry. | The videos! There was just the right number and they were so well positioned that it was a nice 'breather' to just enjoy cute footage. | Photos of cats – because I'm a cat lover | Videos and photos as I enjoy seeing media of cats | I like the cute cat pictures | The pictures were suitably pleasant, but also descriptive in themselves i.e. showing cats in their domestic habitats. | Written word and pictures. I read quickly so I always prefer reading over watching or listening (actually I'm not sure if I saw any video or audio (mobile). Pictures help to retain info. | I thought it was a great balance throughout | The photos and videos provided a break from the text | Photos. I like photos | The photos, because of the variety to support what you were saying | no favourite type of media - all really good |

### **What problems did you find?**

None. | None. | As above, just the videos going auto fullscreen. Aside from that, I had no problems. | No problems | None | N/A | Sometimes the scrolling was a bit glitchy. | None | none | The video loading interfered with the flow for me...but my internet connection is playing up so there was a bit of a wait (not much) but whilst it was trying to load, I could not scroll. | The scrolling function was a little confused | Some of the comments | The videos took a little bit of time to load but not too long. | N/A | Far too wordy. Reads like an article rather than a website. Perhaps divide into more sections that can be expanded if you want to read more about that topic. Also, the content/pages were slow to load at times, so that could either be due to my own internet connection or the host server. | I found the pictures took some time to load but that may be me, my computer is a bit slow. | None, everything worked perfectly | On one of the film clips there was no sound - I think it was supposed to be like that but it was a bit weird only having one clip without music. | None, it was simple and straight forward. | None | None really | No problem | N/A | Mostly the trying to scroll past the video aspect other than that it was fine didn't notice any mistakes or anything. | I had to click the mute/unmute button on each video to get sound. | Need patience to load each page properly. However, it was easy to click each tab in order | Some minor typos and I think there were a couple of run on sentences that were hard to follow. Shorter was a little better for me because it was a long read with lots going on. | Moving around the site was a bit slow but it could have been just my browser. | Nil issues, some pages took longer than others to load if they had videos on them | Loading the pages was a bit slow | Slight issues with clicking on links when viewed on iOS devices (iPhone XS Max and iPad Pro) | A few typos/grammatical errors. Also there are other options that could be canvasses – eg inside only cats, adopting older cats, fostering instead of owning, respite care for elderly cats from shelters, managing colonies etc. | Nothing particular | N/A | I got confused with scrolling, expecting it to scroll down, then something popped up – the next story or text. | None | Slow to load page

### **Would you read this content if you came across it on social media?**

Yes. | Yes probably. | I definitely would, and I would share it with others as well. However, maybe it could be consolidated/shortened. Or even with a brief overview of each subject at the top of each resource. If I were to share it, I know there would be people who wouldn't read it in its entirety. | Yes | Yes | Yes | Probably not unless it was pitched differently around how to protect your cat from | Probably | Maybe if I had the time, otherwise I may just watch the videos | Possibly not in present format – if it was split into the individual chapters as separate posts I would be more likely to read it | Possibly, I see 'Predator Free' and switch off so would be dependent on how it was marketed. | Yes | Yes. It was well written and not confrontational. | Yes | I would read part of it, but not all of it. Mostly because as a cat owner and SPCA volunteer (a foster cats and kittens), I already know a lot of this information. | Definitely, but may not have continued the whole way through. | Yes, however I can see some people not bothering to read through the entire thing | Yes I think so, especially if the film clip was posted - I'd then go and look at the site. | Yes | It would depend on how it was portrayed on social media. Obviously you only have a small space to advertise a link to a webpage but considering it is about cats I would most likely read it any way. | Yes | Possibly | I probably wouldn't read it in its entirety on social media as I generally use that for more light hearted reading. Maybe an abridged version? | Most likely no, as it is very long. If I came across it in just one of the sections potentially, but would need to be quite emotive for me to click on it. | Most probably. If I had time and wasn't bombarded with ads. | Yes, because I like seeing anything to do with native birds so this would catch my attention. Possibly also, if I was searching for specific information on a cat page eg snipping and chipping. | I would at least skim over it – I think if I started at the right point I would read most of it because it's very engaging. | Yes | Yes, as it is a subject that interests me | Yes | Absolutely! It's informative, but also very accessible in terms of its tone. | Yes | I read often cat related media | Yes | Only some of the content that would interest me. | Yes | Possibly | Yes

**Would you share this content with others?**

Definitely. | Yes. | Yes. | Potentially | Yes | Yes | Probably not, perhaps some components, if there was more practical advice and tips on how to transition your cat indoors. | Probably | Yes | Yes | Possibly yes | Maybe | I do not share content randomly but if a friend had a specific interest in the content (such as the catios), then yes, I would. | Yes | I don't often share articles on social media, but there was an opportunity to promote it on say Neighbourly, and it was relevant, then I would. | Absolutely | Yes | ? Yes, it's such a worthwhile cause and great source of information. This resource could really make a difference in the attitudes towards cat ownership! | I would probably tell them about it. | Absolutely | Probably not unless it directly related to people I know | Yes I would | Yes | Yes, as it is an important message to spread and I know a few cat owners who aren't very responsible and either don't know about the consequences or just don't understand the repercussions. Also for Helen's idea for a cat enclosure as I'm sure many people like me have never even thought of doing something like this where everyone is safe and happy. | Yes. | Definitely, because there are stories that take away some of the mystery of roaming cats. | Yes, I would! I think it's great as a resource without feeling too judge-y – especially if someone was getting a first time cat or expressing worries about their cat wandering, I'd be like, Oh take a look at this! | I did | No | Yes | Yes, I have already. | Perhaps if I knew someone who would be interested eg if they were thinking of getting a pet | Perhaps | Yes | Yes | Yes | Yes | Yes

**How did you feel about its entertainment value? Was it interesting to read and did it hold your attention?**

Yes it was interesting and it had a great combination of anecdotal humour and seriousness. | Yes | As I am both a cat lover, and a native population lover, I loved the whole lot. Desexing and microchipping is something I have done quite a bit of research into already. I wouldn't say it was entertaining, as such. More informative. | Very interesting | Yes, I enjoyed the variety of stories and that it showed different opinions held. | Yes | Some of it was a little dry. | It was interesting | Yes it did, wasn't too long and broken up by videos and photos and stories | Yes and yes – managed to read it all the way through in one sitting – so kept my interest | I did find this interesting, my cat is microchipped and desexed but I hadn't thought of the idea of her being my last cat, I am not 100% opposed to this idea as could have dogs etc. | Interesting | In general, I found it to be well written with a nonconfrontational tone. Some of the interviews were a bit long with the two women who are involved in cat rescue. | Interesting to read, very well organised and information flowed in a cohesive and clear manner. | As mentioned in #6, I found myself skipping over a lot of the information as I already knew it. It was difficult to then find/focus on the new information. I think it might have been more interesting for me if it read a bit more like a blog (in terms of entertainment value) | Very entertaining, even though it was a lot of information and took me a while to get through, it kept my attention, and was very interesting to read. | I enjoyed the different interviews and information you had. Definitely seems like you have gone to the effort of interviewing people from both sides of the debate | I loved the wee stories and the personal insights from Gini. It was a good balance of facts and creative writing | Yes, I like the pictures most. | Yes I found it very interesting and informative. Definitely held my attention. I really enjoyed the overall content but also the more personal stories which were a great touch. | It was a good read I wanted to get to the end without thinking ughh reading | Yes it did I found it quite easy to read and it kept my attention. | Yes I enjoyed it. Very good having personal stories such as the cats being trapped at Harvey Norman and the ongoing care. I also enjoyed the entries about the wildlife reserve in Dunedin (much like Zealandia). | I think it was interesting to read and as I said previously, I liked the personal aspect with the stories, I feel like the text could be more emotive and use more emotive language throughout as you do display it in certain parts like the microchipping section with the "Yes!" and that really worked for me. | Yes it held my interest, mainly because I have two cats. The entertainment value was good too. Not only within the text and the stories, but also due to the interesting media. Such as the fitting pictures relating to particular topics | It was engaging when I

had time to go through the whole thing. It was written in a friendly manner and best of all was truthful and focused. Not “selling” ambiguous ideas. I would stop reading if there was any sensational pseudoscience. | It was really entertaining. I laughed, I cried...No, I just laughed a few times, but it was entertaining and super engaging. The only part that didn’t grab me was the “how do I use this resource?” | A little long winded and the intention of the resource did not come across very clearly | Yes as it had a mix of personal stories and facts | I did find it very interesting. | Yes, it did. It wasn’t too long, but seemed to cover a significant amount of ground: conservation efforts, the philosophy around owning cats, the perils of having an obligate carnivore as a domestic pet, and also what the future may look like regarding legislation around cat ownership. | Mostly. I enjoyed reading about the different cats and their stories. | It’s okay but nothing new to me. | Yes | I felt that the stories from different people were interesting to read. | Yes | I found it interesting and it held my attention | enjoyed the presentation - well written and entertaining; Interesting to read and yes, held my attention (such that I went through it twice

**Do you feel like the tone was inclusive (not confrontational?)**

Yes | Yes | Yes | Yes, it certainly wasn’t confrontational | Yes, particularly as it came from someone who was fond of cats but also had sound understanding of the argument against | Yes | Mostly, I feel like it is more geared towards an agenda of responsible cat ownership for the purposes of protecting bird species and wildlife vs for the safety of the cat | Yes | it was non biased and presented facts and viewpoints negative and positive factually without swaying the reader | Yes | Yes | I feel it had the undertones of “get rid of your cats” | Absolutely. Information was presented in such a way I did not feel defensive about owning cats | Inclusive | The tone was mostly neutral, except towards the end. Not sure about inclusive, but I didn’t think it was confrontational | it was inclusive, you hit from both angles without favouring one or the other | Yes, I liked the casual tone | Very inclusive | Yes, more making people aware than making them feel like they’re doing the wrong thing | Definitely | Yes | It was fine | No I think you struck that balance well. Not preachy at all | Yes although I feel it jumped from being very objective to emotive in some areas and you need to as a whole pick one for the text. I personally preferred the emotive parts as it paired well with your resources as they were quite personal story focused | Yes. It seemed to respect cat owners and showed that they can still be a part of our lives and live in our homes | Yes, respectfully for cat owners by pet owners and experts. Educational | It was very non-confrontational; it made everything seem like well-discussed options and nothing felt blame-y | It wasn’t confrontational but it could perhaps have been a little more decisive and direct. I know it is very difficult to get that balance right. I found it very hard to gauge what the intention was | It was inclusive but slight confrontational | Yes | Yes – the tone was suitably accessible, without being preachy | Yes | Good | Yes | Yes, very much | Yes | Yes | Yes – inclusive |

**How did you feel about the way cats were portrayed in this resource?**

I’m divided. I understand some cats are more inclined to hunt and kill wildlife, but not all cats do, and parts of the resource seemed to be demonising them even if the intention was not there | Ok | I don’t feel that cats were sugar coated and made to seem innocent, but I also didn’t feel like that cats were made out to be massive and disruptive pets | Sometimes it can make you feel that they’re evil little beggars, but it is their nature to be hunters, so that needs to be taken into account too | Yes, I think they were portrayed in a loving way | I think they were given equal billing | See above (Mostly, I feel like it is more geared towards an agenda of responsible cat ownership for the purposes of protecting bird species and wildlife vs for the safety of the cat) | Slightly annoyed | Fairly | A very fair neutral portrayal | Fine, weren’t portrayed in a bad light | Loveable pests | Truthfully. Feral cats (in particular) are a huge problem in our society and this was discussed. Domestic cats were portrayed as well-loved pets but the need to reduce their impact on the

environment was subtly stressed | With respect | ? I think the information was slanted a bit towards not having a cat, especially as I reached the end of the resource. Up until that point, I thought cats were mostly portrayed as a being to be managed, with the stories bringing out some personalised positive outcomes (e.g. the rehomed cats found in a wall) | Cats were portrayed as predators and pets, killers and sweethearts, which is really thought provoking | Fair representation, I didn't feel like they were being demonised in any way (which would have been easy to do considering the topic) | I love cats and it was clear that Gini does too but by being straight up about that I don't think there was any intense bias | Very well, even though they are cute and cuddly, they are predators and they do need to be controlled somehow | I feel like the content portrayed cats in a fair way. It wasn't like 'boo cats are bad' – it took more of an informative approach and how they affect environments around them. A fair argument | Fairly. They are predators and can be trouble no reason to hide that | Great they are animals after all and you get what you put in | All good | I liked how in this aspect it was objective neither portraying cats as the enemy or angels that could do no wrong. Instead weighing up the information for both sides and letting the reader come to their own conclusion | Good. In a realistic and honest way | Positively, cautiously, but needing humans and science (vets) to manage them, roaming/homing | Great! They seemed like cute pets that we want to provide for as best as possible | Not overly negative but not very positive either | I think cats could be portrayed better. As mentioned, they do actually help the environment in some ways by controlling rats and mice | I felt like they were portrayed slightly negatively | It was evenly-balanced – I didn't get the impression that cats were being demonised in any way | Balanced. Good companions but can have a negative effect on ecosystem | Just as they are in general | It wasn't all negative towards cats | It was fair | Fair | They are great if their owners are responsible owners | They were portrayed as cats - not nasty feral predators which need to be eliminated, but as animals who happen to show love to their owners and who happen to retain the hunting gene

**Would you like to be able to add to this resource yourself? Through your own stories or perspectives?**

I'm not sure I would be able to add much aside from personal opinion, so no | Yes could be a good idea | If possible? Perhaps. Purely because I believe I'm a responsible cat owner and that people are only hearing what they want to hear in the media. It would be good to see more stories coming out | I would be happy to assist with my journey of owning a cat who was brought up in an apartment, to moving to a house where I am having a catio built | Yes, although I do feel perspectives were quite well covered | No | No thank you | No | Yes | Possibly at some point in the future | I love my cat and have loads of stories, not sure they would be interesting to others though | Yes | As much as I love discussing my cats (especially Dave-he is hilarious), I feel that if you let cat lovers do this, it would detract from the original aim of the resource. Also, it could be ruined if anti-cat people also felt motivated to comment | Not personally but I could see the benefits of letting others do so. I personally think it would be great to see school children telling their stories about being responsible cat owners too | No | I think it would be great, because there's nothing people love more than talking about their own cats haha | I think there is definitely merit in allowing other people to give their opinions and perspectives, however it could be difficult to moderate since this is such a controversial topic for some people | Yes maybe - I volunteer with cat rescue occasionally and adopted my cat from the SPCA I think my story is super common - but people still buy from breeders which I think is silly. I don't know where I was going with that... | No, it would get too crazy and opinionated as not everybody sees eye to eye | Oh that would be a really neat feature! It would be a great way to further the discussion. Not sure how you would monitor it or avoid trolls but would be awesome. Like a 'your stories' tab or something | Not really can't think of anything to be honest | I think you have covered everything well | I don't think that Cat would be a good role model | Hmmm potentially, as I do have strong feeling about cats that are deemed "feral" solely



because they are wild cats. This is mostly because of my childhood cat I had since the age of one was a wild cat who was slowly trained into being a domestic cat and I feel many share the view that wild cats can't ever become domestic cats and so don't give them a chance. So, would be nice to add this story to the mix as it is mostly feral or wild cats attacking the wildlife, as they are the most in tune with their hunting side. However, I think my mum would be better suited to share this story, as like I said I was only one when we captured her so my memory isn't the best for the early days in her acclimatising to domestic life | No. I can't really think of many interesting stories or perspectives that could add to what has already been written | Maybe, I'd like stories on native birds in urban gardens. I'm not getting a few Kereru sitting in my cabbage tree and I live 3kms from Wellington CBD | It would be fun to talk about why I made the cat ownership decisions I made and how that has affected my cat. I think that would be nice to add in things like that! | Yes | Yes definitely | Not really | Not me, specifically, but I can imagine others may wish to | I'm sure some people would and I think I would probably read others' stories but it would depend on whether I would ever come back to the resource. If it was a one-time visit, probably not | No | Maybe | Yes | Not really - not a good writer/teller of tales...

### **What do you think the overall message of the resource is?**

Overall, to me the message was about cats endangering wildlife and how to responsibly own/manage your cats | Think carefully about the affects cats have on our environment | I think overall, it's a lot about learning about cats and responsible ownership. There is a lot of media about cracking down on ownership of cats and people keep pulling out the "but our native wildlife" card. By making people aware of responsible cat ownership, I believe that could be less of an outcry | Responsible cat ownership | To make both cat owners and the general public aware of what responsible cat ownership entails and what we can all do to contribute | Responsible pet ownership | To promote responsible cat ownership for the purposes of creating a predator free nz | to be responsible | Education about cats and the environment, positive and negative impact and gave an unbiased view on both. A conversation starter | Responsible ownership and management will help protect wildlife | Awareness of cat's effect on environment | Don't have cats | That it is possible to have both a cat and native-friendly future. In order to achieve this, however, humans need to work out a way of managing their pets so they are not a threat to native animals | To begin a dialogue about what it means to be a responsible cat owner in 2018 and beyond. To rationalize rather than be emotive about what part we can all play | Cats are great, but people who own cats need to be more responsible and aware of the impact cats can have on their local environment | I think the overall message of the piece is to invoke people thinking about cat ownership and how we can change it, make it better | People need to be more responsible for their cats | How cat owners need to take responsibility for their cats (desex, microchip, keep inside) and how everyone (cat owner or not) should be involved in managing cat populations | Responsibility of cat ownership and the importance of understanding their needs so that they can be seen as a friend and pet rather than a pest | Cats are like sweets, great but in moderation. As owners we need to take more responsibility for our pets especially with regards to our wildlife | That we need to look after/take care of our cats and be aware of what they can get up to | Think about owning a cat, advantages and disadvantages | Keep your bloody cat away from the wildlife | To be a responsible cat owner and to further awareness to the consequences of cats in New Zealand in regards to our wildlife protection | To widen awareness of conservation in NZ and how cats influence it. Also, on how to better care for your cats whilst thinking of the impact they have on wildlife | Managing and defining (cat) predator instinct and activity. The importance and vulnerability of NZ native species | Consider microchipping and containing your cat so it can live a long and healthy life without impacting NZ wildlife | On first reading, I wasn't really sure. After further input from the writer, I understand her intention | If you own a cat, consider the type of lifestyle you offer them and how it affects the environment | Being a responsible cat owner | This is the way things are going – something needs

to change – let's consider our options here | To think about how we can protect our native wildlife | Its information it depends on the person what they find interesting | Cats and wildlife can live together. There is no need to completely eradicate cats | Very comprehensive! | Consider the implications of cat ownership before committing to a replacement pet | If you have a cat be responsible for it | Keep cats by all means, but limit their exposure to roaming/wildlife; have them desexed and microchipped; Give them a good loving life;

#### **What did you think about each chapter – did they fully cover each topic?**

Yes | Yes | Definitely. It was very informative | I think so | I think the topics were well covered, and brought up new ideas to think about | Yes | There could be more under catios and other guidance around how to transition your cat towards being indoors some or all of the time | yes | Yes felt they were well covered | Sufficient information in each chapter | I think so | Somewhat but the tone was not having cats in New Zealand | Yes. The key points were well covered and backed up with research | Yes | For the most part, yes. Desexing could have covered more, e.g. microchipping included details about approximate costs and that it was relatively painless, but no equivalent information was provided for desexing. Again, the two case studies could have been summarised with the option to expand to read more if the reader was interested | Each chapter was well rounded and polished | I felt like each chapter did a good job of casually introducing several ideas and certainly made me want to do some more of my own research into the topic of responsible cat ownership | Yeah, I think so | Yes, they covered definitions and reasoning | I enjoyed each chapter and found it very informative for each topic | Yes very informative | Yes - very well | I think they did fully cover each topic specifically the microchipping section with it even including videos to just the everyday benefits it can have. I think the Predator Free NZ section could use more added media, such as pictures of Elton Smith's quotes as some were quite hard to believe are true if you don't already have background into his character and beliefs | To my knowledge yes | I enjoyed reading each topic and in particular felt better about lost cats being found | On the last cat, I think talking a bit more about regions that have stopped allowing new cats in would provide a fuller story. The Predator free one with its intro to Dunedin was a bit confusing at first, but once I got where it was going, it was okay. I loved the catios and the microchipping one. The desexing one was cool; it was a little less clear at points than others but the points were made. Only the italicized summary at the end about "adopting a kitten" – I'm still not quite sure what the take away from that is | Yes but I think the communication could have been a bit clearer. Maybe not such long paragraphs. Bullet points maybe? Nowadays people have the attention span of a fruit fly. I also think most cat lovers are already on the defensive because of DOCs policies and PFNZ. If it isn't conveyed very clearly and immediately that this resource is intended to protect cats, they immediately dismiss it and will now read further. Basically, cat lovers have had a bellyful and this could be perceived as just another attack | Yeah, no issues there. | Yes | They seemed to, yes, although I would have liked to have known more about possible future projections | Mostly. As noted above, there are other options beside catios and not getting a cat | Yes | Yes | Yes | Yes | I believe so | Each chapter although completely different in content complemented the previous and/or next chapter very nicely

#### **Was there anything else you wish was covered?**

How you can track your cats to see where it is going | No | Not really | I think everything was well covered, only thing I could think of was a mention of de-sexing open days at vet clinics, which are very affordable (for those who have just received a 'free' kitten or cat of the net) | No | There could perhaps be more covered around not for profits in NZ helping in this space and help available for desexing and microchipping | no | More ways cats could become indoor cats, hints on how to do this and perhaps alternative ways to do catios | You pretty much covered it – it would be interesting to read if there are differences in behaviour between city and rural cats other than the roaming distance | Is it really an issue if you are say in a city not near any nature reserves and your cat only is killing mice and say starlings and sparrows which were introduced anyway? | More of a proactive approach, with regards to desexing | I thought that key points were covered. Perhaps some content on how to discourage cats from attacking birds without resorting to catios or leaving them inside

full-time (if this is possible) | A section covering the benefits of having a cat in your life. Just to balance it against the practicalities of cat ownership. You could also talk about options to further manage cats, such as keeping cats locked indoors overnight. A few more statistics would also be good – subjective stories are good to a point, but I personally need some facts | I think over time you can add in more as time goes on and things change, but at this present time, probably not | I'd like to see more about how feral cats actually live, perhaps more explicit information about what cat owners should be protecting their cats from e.g. abscesses and diseases from fighting when roaming, being hit by cars, something to make cat owners really think about whether they are doing everything they could to ensure the best for their cat. Possibly a bit more info on keeping cats indoors 24/7. The cat enclosure part was good but isn't an option for a lot of people in a suburban environment. I think it could be good to show cat owners that it is actually possible and not cruel to have indoors only cats. Indoors only cats are very common overseas but not really in NZ | Perhaps a bit about how Wellington have implemented their cat bylaws for cat ownership. I think maybe you could include some more information about the harm of buying cats from breeders (although I understand that this might be outside the scope of the project) - this would help to reinforce the adoption message | No | No, I think everything was covered. There were a lot of perspectives which really helps to get a message across | Nothing I can think of | No all was covered well | How to let your cat roam and still keep the birds and insects safe haha. No, I think it was great | Potentially, more information the last cat section to do with what impact this could have statistical wise on the wildlife population. Although, I'm sure if it would even be possible to find this information, or work it out but it could be estimated. This would have been useful to see the direct impact could make if you were to make this decision | Not that I can think of | I would like to see more examples of catios and catio tunnels from windows to get people to think that keeping cats on their properties is a positive thing | I thought this covered a lot of NZ-specific cat issues and I don't think anything was missed in general | Nothing springs to mind immediately | Awareness about how cats actually help the environment by catching mice and rats which are pests | No | Nothing that I can think of, although my therapist bias would love to know a little more about the psychology surrounding companion animals, especially the dynamics that apply to cats as they interact with humans | Indoor cats and all the things I listed above | No | No | Probably how to deal with grief, especially with very old cats who've been a huge part of the family (like my Chui). She's been a pet of mine who I've had the longest | No | No | not that I can think of

### **How did you feel about the length of the content?**

Some of it was a little lengthy but overall it was pretty good and covered a lot of good points | Good not too short not too long | For someone like me, who really enjoys research, reading and cats, I was happy to sit down and read through each resource and thoroughly. However, for someone unlike me, I feel that it was too long and could have had (as mentioned above) a quick/brief outline of each part at the beginning. | It was fine for me, but might be a bit long for some | I think it was of a good length to hold the reader's attention | Good | A bit long with regards to predator free NZ, although it does appear to be geared towards promoting this as the primary purpose of the site | okay | Right length any longer I may not have enjoyed it so much, long enough to feel it had covered topics with reasonable depth to be credible | Good length for this purpose – as previously stated – 'bite size' (chapter) chunks would possibly be more user friendly via social media | Wasn't too much | A bit long but easy to read | Perhaps a little lengthy in the desexing section but otherwise was informative and well written | Appropriate length | ? Far too long for me. The information/content is great, but needs to be provided in more bite sized chunks | It was fairly long, which may turn some people away | Was definitely longer than I was expecting but it was good reading and kept my attention for the whole thing | Good, I liked how it was split up with pictures/banners/film clips | It was fine, if people aren't going to read all of it than they don't really care in the first place | It was a good length. It didn't go on and on to get a point across but also wasn't too brief that you were left

with heaps of questions. It was the right length for the content that was covered | Not too long for me to lose interest | Pretty good | Probably too long for social media as I mentioned, but could not be shortened for this purpose as it would lose effect | It was very long, but I think every section was very necessary but could potentially be shorten | Just right. Held my interest and taught me a few things I didn't know. If each section was any longer, I may have lost some interest | Pleased that it wasn't like a lightweight magazine cut n paste article. | Good. It is on the longer side but videos/photos break it up well and the tabs mean you can easily only read what you think is relevant | A bit long | Just long enough to hold interest | It was just the right length | It was fine – not too lengthy | Good length | Long enough | Length was great | The predator free content was very lengthy and comprehensive and I found myself scanning while I was scrolling instead of reading the full text | About right | There was quite a lot of information | Length was fine - could have been longer and there would be no problem with losing interest

### **How did you feel about the use of characters and personal stories?**

It made the resource more human and less... mechanical. | Good mix | Enjoyed it. (Also the cat pictures) | I liked that. It makes the message mean more and feel less like a lecture | I liked it and made the resource feel well put together and researched | Great | I liked the personal stories | okay | I really liked them gave a perspective that was relevance | From a design perspective (I am an instructional designer) – this is what I would expect as it helps chunking and gives an authenticity to the content | Was a nice touch | Loved the ones about rescue | I liked the personal touch. It held my interest/attention | Excellent, loved the story about 'Helen's home' | Good, but perhaps have these sections as expandable for those who want to read more | Personal stories are a guaranteed way to keep interest so was very good | Loved it | Loved it! | Using personal stories from everyday life made the material a lot more relatable | I loved it! It was a great touch and made it more interesting as well | It's always good to have things one can relate to so using characters lets us imagine these scenarios actually happening | That was great liked seeing the cute cats | Very much enjoyed them – also very useful to see how other people are coping with their own cats and this situation. Makes doing something about our cat feel less onerous | Those were my favourite part is complimented the informational aspect of the text very well to convey the messages you were trying to get across | I really liked them. Real life examples that not only back up what is stated in the text, but they also add an emotional element | They were a good idea. Factual and local which is important | They were good! Sometimes it took a while to see the connection – like with the introduction to Dunedin on the "Predator Free NZ" tab, but once you got there, everything made sense | I think the stories of the people choosing to give up cats permanently are just horrible | I enjoyed this as it is relatable | It made it feel more personal | Personal stories always enhance a scientific investigation, in my view, as they provide a much-needed human factor. They also invite the reader in, and encourage personal reflection | Awesome. My cat is an ex-feral rescue too | Good | Made it feel more personal | It was wonderful to read. Very authentic! | Very good | Made it more real | Excellent use of characters both human and feline - tends to engage the readers and make it less academic

### **Do you think there needs to be more information specifically on the effect of cats on wildlife?**

I think it was well covered and diplomatically handled | Yes but also about the ways of preventing | Any information is good. It helps bring an awareness to what cats (or any animal) can do | Yes, given the impact on wildlife | Somewhat, but also from both sides and they are very useful rodent hunters, and more focus on what we can do to prevent cats harming certain animals | Yes | No I don't, it is very much geared towards this | no | Maybe a little more | No – I think this is a good introduction – people who are responsible will research more – otherwise you may come across as being 'preechy' | I think there is a lot of it at the moment | I really thing that there needs to be MORE

emphasis on habitat decimation, pollution and taking away native birds natural habitat | I personally don't. This is widely available in the media. Repeating it might cause people to lose attention and/or become defensive about owning a cat | Yes | No, I think there is enough of that elsewhere on the internet and the general sense that non-cat owners have | I think if you want people to start thinking about their own cats impact on the environment, then adding in more will help | Yes, cat owners are fiercely protective about letting their cats live their best lives and it's only fair that that ferocity is battled with equal tenacity in the form of hard hitting facts and figures. I don't think you mentioned much about cats probably being the apex predator in NZ, something that people very easily seem to forget. The native wildlife is fighting against cats, rats, possums, stoats, dogs etc. There is nothing keeping the cat population under control in the 'wild' | Yes, especially on skinks - most people know about the bird thing but might think it's fine for their cats to hunt lizards | No | Definitely. I learnt a lot through this content and believe it is from the lack of information that is currently around | Possibly but I wouldn't really know much about it myself | Yes possibly I hadn't given it much thought until now to be honest | Possibly, although this may well turn people off (i.e. my cat would never do this). I think it's probably best left as it is and leave people to make their own conclusions | Yes | I don't think so. I guess it is hard to gauge how much damage they do, considering they're not the only predators out there. Maybe more statistics would be good, but that could be hard to source as a lot of research would need to be done | Not really because people don't like being told anything. I don't want sad horror stories. Some will challenge the information eg anti 1080 groups. The resource gives people ideas on how to protect both their cat and wildlife. More stories of increasing wildlife is encouraging. I might be wrong | I think it might help; I really like seeing numbers and this resource does such a good job of encouraging happy cats and happy wildlife that something a little more specific about the damage would be helpful for those who are numbers-minded without feeling attacky | I think there needs to be some proper, independent scientific study done by organisations not on the payroll of DOC and PFNZ. The 'research' commonly cited by the anti-cat faction is very dodgy in my opinion. An unbiased institution, preferably from outside of New Zealand needs to do a proper study | No, I think there is enough already | Yes, perhaps more about other parts of NZ not just Dunedin | Yes, absolutely. In some ways, this was one of the most fascinating sections of the piece and I would like to know more about the roaming habits of cats etc | Definitely! | No | Yes | I think that the info in this section is comprehensive enough | No | Yes, I'm sure most people don't even think about it | If there could be research which provides definite evidence of the effect cats have on wildlife (as opposed to the research "suggesting" an effect - lay people prefer definitive quantification) that could be very useful

### **How does this piece make you feel about cats?**

I don't like how cats sometimes have the inclination to destroy wildlife, but nothing will make me stop loving cats, so this piece has not changed my thoughts on them. I already make sure all my cats are fixed and micro-chipped, and I believe I am a responsible cat owner | Makes me more aware of the impact my cats have | It hasn't changed my views. I love cats, I try to make an attempt to be the best cat owner I can be and I still love our wildlife and would love to help keep our native population thriving | I still feel positive about cats, but it reinforces our role in how to manage them | Neutral, I liked that it was informative to all reading it. Although I don't think I will adopt the Last Cat idea | I am a cat owner and lover but after reading this it, it has given me a bit more insight into why it's so important to protect our wildlife | It does create a sense that cats are a bit of a nuisance (which obviously I don't believe) | no different than before I read it | No change how I feel about cats | I love my cats and they have all be neutered or spayed...they are fat-ish and very lazy. The unfortunate reality is that not all cats are cared for in a loving and caring manner, (feral cats were possibly owned at one stage) – domestic cats – all good with responsible ownership, feral cats not so good and not good for environment and wildlife, colony cats if managed properly are ok | No

change, I am aware they are predators | I love cats and will always | It does not change how I feel about cats. I love cats and our cats bring a lot of happiness to my family. It does, however, make me think that I needed to be more aware of their impact on the environment | I have always had a special relationship with cats and will continue to do so. However, it made me think more about the excuses we use to defend cats when we know they can be destructive to our ecological system. Cats have always had a mystic and is in part why people love them so much | The stories in the last section "Last Cat" leave me feeling a little negative about the resource as it only focuses on not having cats. I think cats add a lot to people's lives and the last section is not very balanced at all. Many birds visit my garden and my cat has brought home a live sparrow twice, and a few (unfortunately) live mice. Not all cats are made equal | It makes me feel sad about the impact that cats are having as predators, but still feels positive towards them | Doesn't make me love them less but it definitely makes me think about the impact that cats have on wildlife a lot more than I have before | Positive, I think this site provides a number of balanced options for people from cats being micro chipped and desexed to rethinking getting another cat | I still love them, and it makes me feel guilty that Handsome may be killing innocent wildlife but I like to think he's not like that, it's their natural behaviour | I'm still an absolute cat lover and I do not think it changed my views at all however it did make me more aware about what it is they do and how they affect our wildlife. I was definitely thinking more about the time of day that I let my cats outside | Cats are always going to be the devil on my shoulder of pets but I still love them and want more | Seriously I would think twice about getting another when Puff goes | That they're little menaces, but can be controlled | This hasn't changed how I feel about cats in anyway, it's just provided me with more information on ways to be a good cat owner | It makes me feel like they are well respected and can continue to have a loving space in our lives. Only we need to consider different things in order to give them the best lives possible while still thinking about other living things in NZ, especially native wildlife | I love them and now think the populations need to be brought down? I feel better informed about how far they actually roam and chipping should be the law | Positively! But also like I needed to make sure I was being a responsible cat owner | I must admit, I do feel like many other cat owners – threatened. While the piece itself is not overtly threatening to cats it could have done more to reassure cat owners or to get their input. But I guess this questionnaire covers the input part | I feel cats are getting a bad wrap and they actually help the environment in many ways. It made me feel sad that people are considering not owning a cat after their current one passes | A bit like they are the enemy | I'm still smitten | I still love cats, but I don't think they should be allowed to roam in NZ | The same as before | I know my boys are killers but I do my best to keep them under control | A bit confused. I have one inside cat and one cat who loiters at night. He has been naughty and brought me some tiny birds before | It makes me think twice about owning a cat in the future | That I should be more responsible | Doesn't change my views on cats - if I could, I would have an Ocelot! (then see how the local dogs would react,,,)

**Do you feel that cats should be allowed to roam free in New Zealand and do you have any concerns about roaming cats?**

I feel that it is unfair to keep cats locked in 100% of the time with no chance to ever experience the outside world. Now, if a catio was a possibility I might consider it as a substitute, but I still feel undecided completely. One of my cats HATES being cooped up and goes completely stir crazy if locked up for too long, and I expect that this would also happen even if he had an outdoor catio to go play in. | No I think it would be good to be able to contain them | I have concerns about roaming cats. But not major concerns. Simple things like leaving my cat in overnight when they'd naturally hunt | My cats are contained in my house (and shortly when it's finished) in a catio. It's a safety thing for both the wildlife and the cats. I believe that if cats are going to be allowed outside, that they should be required to be inside at night at the very least | Yes, if microchipped and precautions taken depending on the cat ie. bell on collar | Not where there is a native bird population | My concern is around the welfare of the cat, I don't agree with trying to regulate the ability for current owners to choose whether their cats are indoor or outdoor or both. I have concerns about roaming

cats in terms of the support available for their welfare and local resources to help manage the stray cat population, rather than a tag and release type system we appear to have at the moment | Yes, and no concerns | I feel that there could be some restriction in roaming if options such as catios were made more affordable or more support about how to create an indoor cat. Keeping them well fed does seem to minimise hunting | That is a tricky one – we live urban rural on an acre of land in a very quiet street...my 'boys' do not go beyond the gate that often however the female owns the street. The key difference between cats and dogs roaming free is that cats are not likely to attack people – one of the reasons why dog control measures were introduced | Not personally, I don't like birds, I do care about the native birds etc. but my cat always brings her kills inside and she has never killed anything native. I do however think it is completely irresponsible to not de-sex a cat or to own a cat in an area where native birds are dwindling. Also I don't particularly have an issue with feral cats being humanely euthanised | I think that people should know where their cats are and that they should be contained, but responsible people do that already, it's the people who dump cats who are to blame and the cat pays the ultimate price | Yes and no. I am not sure how I feel about catios-it feels a little cruel. As much as I would like my cats to stay inside, they get a lot of enjoyment playing outside | I think it depends on the cat and the owner to be responsible. Some cats have more of a hunting nature than others. The cat owner will learn this about their cat and should put in place measures accordingly. My own cat is free to come and go whenever she wants. However, she mostly stays at home (she pretty much sleeps all day) and then sleeps on top of me on the bed at night. I don't see a reason to force her to stay in | Cats do need some sort of control to them, as they are causing issues with being one of the biggest predators for native wildlife. Since I have a kitten, I am also concerned with roaming cats, that he will get attacked by a roamer | No, they should not be allowed to roam free | Absolutely, if cats aren't wearing collars it's impossible to tell if they are pets or strays or ferals - cats should HAVE to microchipped by law and I think should have to wear collars - the same as dogs. Then we'd all know that any wandering cats are not owned and probably need some extra food and a trip to the vet. I don't think that killing the strays or ferals is needed though, I think minimizing the number by desex etc is what will make the difference in the long run | Yes, at the owners own risk. If you choose to have an outside cat you take the risks onboard in doing so | Im very half and half about this as at least with dogs its easier to contain them in a backyard etc with fences but cats can climb those. They like to have the option to roam | It's a difficult question. I would love to have cats roam free but they don't have the same concept of territories/boundaries like we do so it is a shame they can't just roam on our property. As owners we do need to take more responsibility but I don't think I could own a cat and constantly confine it to inside or an outdoor pen. There would need to be a LOT of enrichment for me to happily do it. In my area, we only have one or two cats that come by and even then it's hardly ever as our own cats have claimed their territory so I can't say I have a concern. It's odd how we have these different rules for dogs which are totally acceptable – is it because we see them as more dangerous to ourselves? | No I don't think they should be able to roam free. I think owners should be more responsible, not 100% how exactly though, Cats are hard to contain its a tricky one! | ? I think as education continues that people will start to keep cats controlled from kittens. With older cats like ours it is quite a bit more difficult when all they have known all their lives is roaming day and night | This is a tough question as I'm not sure if you mean domestic cats being allowed to go out around their areas for walkabouts or "feral" or abandoned cats roaming free. Regarding cats without homes, whether they are born into that life or abandoned. As I do feel bad because it's not the cats fault it's in this situation to begin with, to follow its instincts and hunt. It is without a doubt in some way directly related to humans not caring for them they have ended up in this situation. It could be they moved and left the cat behind or that they didn't get their cat de-sexed and then it's had litter upon litter that they then can't afford to look after so they just let them run free and then it continues for their kittens. So, it's horrible that cats are to blame for mistakes that a for the most part humans' doings. Therefore, I don't think cats should be allowed to roam free in NZ with that regard, but however I think there should be more legal standards set in place for owners and more consequences for being an irresponsible pet owner | Depends what you mean by roam free. Strays need to be controlled I think, not only for their own benefit, but for other wildlife as well. Domestic cats I feel should be allowed to roam freely outside, unless maybe if you live within a certain distance of a wildlife sanctuary or a national park | Can't make my mind up because they can do damage! I always think dogs off leashes do far worse. Perhaps encourage mini predator fences like the ones with a rollers along the top so cats can't grip | No, I don't think they should be allowed to roam free – they are super destructive to wildlife! I'm also concerned about them being hit by cars when they roam | No they shouldn't because it's irresponsible and selfish to subject non-cat lovers

to out pets, it's tough on the wildlife and it's frankly just dangerous for the cats themselves | I think cats should be allowed to roam. My only concern is them getting hit by cars or hurt by dogs | I don't have a problem with free roaming cats | I feel that cats need to roam in order to prevent certain destructive behaviours within the home environment, but I also acknowledge that this is a tricky thing to achieve when we are faced with the facts regarding bird populations declining and so forth | Cats should not be allowed to roam free | It depends on the situation, in my opinion cats should be inside or on a leash or a closed of yard. Exceptions can be made like a barn | I think more needs to be done around educating owners | No cats should not be allowed to roam free. Yes, I have concerns | Yes but in designated areas only | No and yes | not roam free - maybe have a defined area where they can roam if absolutely necessary |

### **Do you keep your cats contained for some parts of the day and if yes, then when?**

Yes, I lock my cats inside from whenever they come inside after 5pm in winter, and 7pm in summer. It varies a little bit as sometimes they wander in later, but in general, they are in at night until 6-7am the next morning | My cats are older now and stay indoors of their own free will. They hunt less now too | Yes. I leave her in when I am at work and none of my flatmates are home (we have 2 cats in our household, so if someone is around and keeping an eye/ear out, I have no issues letting her out). I also leave her in overnight | My cats are currently 100% indoor, but will get some outside time when their patio is completed | Not often, more so at night | I have a cat door so she comes and goes as she pleases but sleeps inside at night | Yes, at night time | yes while i am at work | Yes they are allowed out at breakfast and return in for the night at 4pm | No but they do contain themselves...working from home they like to be in the house as much as possible going outside for 'pit stops' and feeding | No, she is free to come and go as she pleases, she does spend probably 50% minimum in the house | Yes, I only let them out when I am home and 2 can't leave the yard | Yes. My older cat does not go out as he wandered off and was lost for a week. Dave (youngest cat) has been unable to work the cat door so is let out in the morning. He typically returns after an hour. All cats are locked in at night | No. See above. Only my foster cats/kittens are contained the whole time they stay with me | Since Hiccup is still a kitten he spends most of his time inside, but gets let out whilst we are home. He is definitely kept in at night and probably will always be kept in at night | No, however my cats are usually inside most of the day of their own choice. If they are not inside they are normally in the front garden. However, I would not be against requirements to keep cats indoors at night for example | Yes, she's in at night from about 11pm-6am | No, he comes and goes as he pleases and some people do not agree with that but he is home every night at his own free will and sticks around until we go to work and is home when we return | Never contained they can come and go. However when we moved Gimli would leave back to the old house so we did keep him contained inside for a couple weeks...didn't help much though | We try to keep them in at night - mostly for their own safety | Yes mainly at night | No. Cat comes and goes as she pleases | Yes our current cat Rosie is a very indoors cat. This is partly as she is getting older but she has always been a more indoors cat. She is inside all of night-time which is when she is quite active. She is let out when we get up in the morning for a little period, at lunchtime, and the afternoon. But she never wants to go out for longer than 20mins at a time and even then, she just sits within eye sight the whole time. So, she mostly sits in front of the door looking like she's guarding the house and therefore we always know where she is and what she is doing | Yes, they are usually inside all night and most of the day during the weekends. They are only outside over a long period while I'm at work | My cat contains himself. He's v cautious outside, always close by when we call him as he's been bullied by other cats all his life. He sleeps inside overnight | Most of the day! Webster is only allowed outside when she can be supervised (during the day, not at dawn/dusk or night) and only for short amounts of time | All the time | Yes, if we are not home they are kept inside with access to a patio. They are also supervised outside which has contributed to them not getting hurt/hit by cars etc | We don't intentionally contain him but he rarely chooses to go outside. We keep him indoors at night | No | My cat is indoor only | They are inside the house or on a leash | Yes, my boys are kept in at night and always have been. Ralph the kitten is only outside when I can supervise him. I live in Karori (near Zealandia) and have a lot of native birds hanging out in my backyard as there were no native birds where I used to live | Yes, at night. I try and keep my cats used to a routine | No | No | Yes - during the day and at night; they (oops I meant She - we lost our Nala a few weeks ago to age and illness so only have one cat now) are let out at irregular intervals for exercise and toileting |



### **Have you desexed and/or microchipped your cats?**

Yes and Yes. I will ALWAYS have my cats chipped and snipped. I do not want to contribute to overpopulation | Yes | Yes. I didn't get her desexed or microchipped as I adopted her from the SPCA when she was 4-5 years. She was only chipped and desexed the year I adopted her | Yes, both are desexed and microchipped | Yes, both | Yes | Yes | yes to both | Yes | All my cats are desexed – none are microchipped | Yes, both | All my cats are desexed and microchipped | Laziness and not caring about their cats | All cats are desexed and microchipped (although we discovered that the older cat's microchip does not work) | Desexed and microchipped | Cost | My cat is from the SPCA, who desexed her and microchipped her after she was found as a stray/abandoned, before we adopted her | He came de-sexed courtesy of cat rescue Dunedin, and I got him microchipped soon after adoption. It's just nice to know that if he does go missing or gets hit, some at least knows who he is and where he belongs | Yes | Yes to both. When you adopt through the SPCA they come with their vaccinations, microchip and desexed (if they are old enough to be desexed) | No, we are in the process as he had some trauma to his bladder and were advised once he is exclusively on his new food to reduce the risk of it happening again before desexing, he will be microchipped at the same time | Yes | Both are desexed and microchipped | Desexed but not microchipped may have to do that | Desexed – yes. Microchipped – no | Yes she has been both desexed and microchipped | Yes | Yes and yes | She is desexed and microchipped | Yes to both | Yes, all | Yes, my cat was already microchipped and desexed when I got him | Yes, both cats in my house have been desexed and microchipped | Yes, both | Yes | Yes, all desexed and microchipped | Yes | Yes, both desexed and chipped | Both | Yes |

### **What do you think is the main reason for people not microchipping their cats?**

Money. I would not have been able to get mine chipped if it weren't for an SPCA microchip for donation drive. It is a lot of money on low income, especially for multiple cats | ? I don't know, perhaps cost | Price and time | Cost, apathy, ignorance | Not thinking it will be necessary or 'worth it'-until it's too late, and cost-especially as it isn't a legal requirement | Laziness | Laziness | not understanding the importance of it | Cost and effort | Cost and lack of knowledge | Identification, so people can tell she is a loved pet | ? Laziness and not caring about their cats | Cost | Cost and ignorance | The perceived cost and lack of knowledge/responsibility | Even though it didn't cost that much, I think cost would probably be it since you have to go specifically to the vets to get it done. A lot of people would probably see it as an extra thing that isn't mandatory but don't realise just how important it is | Cost and ignorance | Don't know how, too expensive, think it hurts the cat | Trusting that they will come home. People see it as an unnecessary expense | Cost | They probably think it is invasive. When I first heard about it, I thought the same thing – I didn't like the idea of permanently inserting something into my wee fur baby. Although now I have warmed up to the idea, the benefits are just too great and I will always have it done in the future | Cost | Don't consider that their cat will run away, and misinformation about the cost | Potentially the financial aspect that it costs money full stop or that they feel they don't need it so there's no point spending money to get it | Cost, and/or possibly invasiveness | Lazy, cost | It's a bit of a hassle, I suppose, and it's one of those things that isn't necessary until it is – a non-microchipped cat isn't a problem until s/he doesn't come home one day and then it's too late to microchip | Ignorance, lack of education. Maybe it should be mandatory | The cost associated | ~~So they can be traced back to their owners if they get lost~~ | Perceived cost, probably | Laziness, expense, not caring, not really caring | They don't know much about their pets | Cost and laziness | The expense | Inconvenience and perceived cost? | There are more where they come from | Cost |

### **What do you think is the main reason for people not desexing their cats?**

Again money... sometimes laziness... the "I just haven't gotten round to it" mentality. And there are also some people that think letting their cats have a litter of kittens will give their cat a better temperament | Cost or just lazy? | Price and time. My flatmate works during the day, so had absolutely no time to take her cat to get chipped and neutered until he was older. She also struggled, along with her weekly expenses, to be able to afford it | Cost, apathy, ignorance | Irresponsible cat ownership! Also sometimes people do not realise female cats can become mothers so young and therefore only get desexed after a litter of unplanned kittens, so lack of education too |

Irresponsibility (I foster kittens for the kitten inn) so it makes me mad when pet owners aren't responsible for their animals | Laziness | Cost | Cost, ignorance and effort. Some use the kittens as income | Cost | Cost, laziness, irresponsible or stupidly think they should breed from their cat | Cost | The cost and lack of knowledge/responsibility | Cost, laziness and a desire for more kittens? | Cost | I think that the cat should be allowed at least one litter of kittens - weird I know but people have said this to me | Laziness, and possibly wanting to breed | Cost | Their idiots...I think again maybe the invasiveness? I'm not too sure really. It seems so silly not to have it done. Perhaps people intend to breed their cat? | Cost | Idiocy | For this one definitely the financial aspect as it is a lot more expensive than microchipping is | Cost, laziness, and/or a combination of maybe not understanding the consequences | Stupidly thinking the cat needs to experience a litter and cost so laziness | Cost and maybe concern over surgery. My cat's desexing was included in her upfront cost and I appreciated how easy that was - I didn't have to budget for her surgery, just came back when she was 6 months and did it then | Utter stupidity and irresponsibility. Much needs to be done about education | The cost associated | They feel they are depriving them of their natural behaviours - or just want more cute kittens! | Cost, and perhaps feeling that it may place their cat at risk as it is an operation | Laziness, expense, not caring, not understanding the risks | They don't know much about their pets | Cost and laziness! Also, some people see it as a quick way to make money if their cat has kittens they can sell | The expense and some are unable to bring them to the vet eg no transport and cages | The cost | Cost | Again, cost |

### **Do you think people who feed stray cats should be responsible for their health care? Why?**

I think that if they feed stray cats they should also try and sort out desexing of stray cats if possible even if it is a trap snip and release. To at least help decrease the stray/feral population | Yes | Unsure/dependent. My grandmother has never 'purchased' a cat. She's only ever picked up strays and tamed ferals. When no one would come and claim ownership of the cat, she took it upon herself to look after them | In an ideal world, yes | Not entirely but it depends on the situation such as if a cat was in pain or severely ill medical attention should be sought by the feeder a it would be cruel to ignore | A lot of people do do that already, and trap them and get them fixed | No. I think that if you decide to be nice and feed a stray then that's nice, taken for what it is. But I believe we need a better process in place around stray cats in NZ, there are fantastic not for profits attempting to help re home cats but they can only do so much | i would look after them if i found any | Tough one, I think they can take some responsibility but have a subsidies to assist in desexing etc | If you are going to feed a stray cat you are 'supporting' that cat - if you do not provide health care why bother feeding them? | Unsure, stray means they had a home, so they are domesticated and reliant on us for their welfare, how you would monitor and enforce this I am unsure | No, feeding strays is a kind thing to do and they do it because of irresponsible people. Being kind should not have to cost you | Yes. If they are feeding them, they are technically supporting the feral cats' lifestyle of having kittens etc. It would be better to get animal authorities involved to rehome the feral cats and thus, control the feral cat population | Tricky question. I'm not sure to be honest. I have known people who feed them at workplaces/neighbourhoods to enable them to approach a cat so they can take it to a vet for a check up as they may have noticed an injury or health problem | To some degree. Otherwise they are having their cake and eating it. If they want a pet, they need to take full care of it, not just the positive/happy parts of it | Yes and no, it's a difficult one. I guess if you're willing to feed them, why not just take them in, because all you're doing is encouraging it to stay around residential areas and cause havoc with pet cats (and dogs) | Yes. If you like cats enough to be feeding strays then you should be getting it desexed at a bare minimum | I think generally people who feed strays are going to be the kind of people who will take them to the vet if anything goes wrong - should they be forced to do this - I don't think so, as it will discourage people from reporting sick or injured animals if they think they are going to be held liable for them | YES. Once you feed a cat it will always come back, if you don't want it as a pet and the responsibility that comes along with it, don't feed it | Yes. If they are paying for food why not pay for some healthcare | Not too sure on this one. I guess it would depend on whether or not you could confirm the cat was definitely a stray as opposed to someone's neglected pet. I mean, we feed wild birds and if one was hurt would you take it to a vet? Some do but some don't. Sadly, I think it all comes down to money. Feeding a stray cat unwanted leftovers or some of your cat's food is cheaper than a vet bill | Yes because they know they exist and obviously are looking out for them | Yes. Stray cats shouldn't be allowed | Another tough question, no as it's not the people who are feeding these cats fault they that cat has ended up in this situation. So, I don't think they should be forced in any way to pay for their

health care as they might not be in the financial situation to do so but are trying to help the cat in this best way they can. Additionally, these cats might not even be stray and I think it depends on situation to situation bases. If you have been regularly feeding this cat and have built a relationship with it then maybe your they should because they basically have informally adopted them. There is always the option to notify SPCA or Cat rescue of the potential stray cat if you can't afford the health care. So, I don't think this aspect should be enforced legally or anything like that | Yes, because they are effectively adopting that animal purely by feeding it | They are in effect breeding cats. So yes. Get their cats rounded up snipped n chipped and released | I feel like they have an ethical responsibility to take care of something if they're going to feed it and keep it alive. I don't know if they should be legally responsible but I know I would feel a personal responsibility towards any animal I was feeding regularly | No. They are already stretched to the limit. They should be given the full support of DOC if it really wants to put its money where its mouth is. BY assisting the feral feeders in funding for desexing etc, they will go a long way to solving the problem they claim to want to fix | I think this is voluntary however feeding them is a responsibility so I believe health care is equally as important. However I appreciate catching the strays to administer the health care may be difficult | I feel the whole community should be responsible – not just one caring individual | Interesting question! Definitely a moral conundrum being presented here. In essence, however, I don't think feeders of stray cats should be responsible for their ongoing medical care etc as this might represent a burden to them that they are not willing or able to facilitate. It also brings up moral/ethical ideas around the definition(s) or 'ownership' | Yes and no. This is hard. It comes down to expense and perceived ownership I think. It's easy to feed a stray cat and feel good about caring for a wild animal but vets are expensive and typically people only expend that kind of money when they feel they own something. Also this seems to me to be a questions of ethics rather than a law because how would you enforce that kind of rule? | No | No but I believe there are some special people in this world who will look after these cats if they can | No. They must not feel responsible for them and should inform others of stray cats so owners will know if their cats are one of them | Yes but I believe strays should be removed | Don't know | No - no more than those who feed homeless people should be responsible for their health care

**How do you see cat ownership moving in the future? Do you think it will change or stay the same?**

I am not sure, but one thing for certain, is that personally, I will not be one of those who will not get another cat once mine pass. As long as there are cats that need homes, I will have at least two. All mine are rescues, and I plan to continue doing that so long as I am alive (though four at a time is a huge commitment and I will probably not have more than that at a time) | I think numbers will reduce. I think that owners should have to register their cats the same way dogs must be | With the way things are going right now, I feel like there will be a crackdown on cats. Whether that's through limiting the number of domestic cats a person can have or, worst case scenario, culling them as they do with other pests. I really hope it doesn't end up that way | ? I maybe see cat registration for cats with homes. Although, logistically that would be a nightmare | I think it will change, and restrictions will be placed | I see probably a move to more catios and indoor cats in certain areas | There has been a bit in the media around this lately. I think that it will stay the same to be honest | Unfortunately i think it will change and not for the better | I think some of the ways we have cats will change as people become more aware | I believe it will change – I can see it becoming harder to own a cat in the city and suburban areas with tighter regulations. Areas where we live perhaps not so stringent as domestic cats are very good at keeping rodent and rabbit populations down | I have no intention of getting another while I have Sasha, would probably only consider getting another in the future if one needed rescuing or somehow crossed my path | Until every cat is desexed and there are no more being born, I really hope it stays the same. Encouraging people not to get another cat?? What happens to the ones in rescue centres??? Do they just get killed?? How awful for those cats, unloved and abandoned with no hope of a loving home??? Because they are seen as pests. Very very sad end to such a beautiful creature | I think that cats will become registered, curfews, and limited number of cats in a household. Some areas in close proximity to sanctuary or wildlife reserves may become cat free | ? It will change and evolve as all things do when we start talking about it. I remember dogs roaming all over our neighbourhood when I was a child. It rarely happens now and if you see a dog you tend to assume it has escaped and got lost. I don't think our love and fascination for cats will ever stop. But I think our understanding of cats will deepen to enable us to make better decisions on how we cohabitate | It will probably stay the same. While it

might be possible, it isn't as easy to regulate cats as it is dogs. I do think there should be limits on how many cats a single household can have, and that microchipping/desexing should be mandatory. However, this would be hard to enforce. And I wouldn't want cats to be automatically euthanised if they were found with no microchip. I also think breeders should be regulated more and in fact, no longer allowed in the future. There are enough cats in NZ without breeders encouraging cats to have more litters | I see it changing, much in the same way that dogs ownership did. I reckon a limit will be put on how many cats you can have, and in which areas you can have them, much like dogs. I honestly don't think it will be long until microchipping and desexing will become just part of cat ownership, as well as registering. I was astounded that I could literally walk into a cat rescue adoption day, fill out some paperwork( for their records), pay some money and then, blam I had a cat, it was very easy compared to getting a dog | It will certainly change, but there is going to be a lot of resistance. Promoting responsible cat ownership rather than demonising cat ownership is a step in the right direction. We need to at least start with small steps such as mandatory desexing, registration/microchipping, vaccinations etc. Fines for irresponsible ownership, limits or fees attached to owning multiple cats like there are for dogs. Eventually I think the best thing for NZ is to require owners to have cats under control at all times like with dogs | I hope it will change. I'd like to see breeders banned - the same goes for dog breeders/puppy mills/ rabbit breeders etc. And I'd like the only way to own a cat would be to adopt ones that need homes. That along with responsible cat ownership should drastically decrease the numbers of stray and feral cats and decrease the negative impact they have on native wildlife | Hoping more people start to desex their cats and be more proactive because the ones that don't will ruin it for everybody as the population grows | Stay the same | Honestly, it will probably stay the same even though we need to make a change. The impact cats make is not publicised enough for change to happen | Hopefully with this message and others like it people will think twice and take responsibility before taking on a cat | ? I think people will keep their cats more under control in the future. There is a lot more education and publicity surrounding predator free New Zealand | Potentially, that we will have more aware and responsible cat owners and then as a result fewer wildlife dying because of cats. Also I think we will start hearing more stories like Helens of creating outside enclosures for their cats | I think it will stay the same until it becomes a big issue in the news about, for example, they wiped out nearly all the tui or something. But again, it is hard to pin blame purely on cats as they're not the only predators in NZ. I don't think we will see the same laws for them as we do for dogs either, as they don't pose the same threat to humans as what a dog potentially could | I now see some changes coming up in containing cats and reducing numbers in cat ownerships: love cats and respect the wildlife | I think it will change to reflect NZ's increasing drive to achieve predator free 2050 and as more people make responsible cat ownership normal | I'm unsure but if anyone tries to tell me I have to get rid of my cats or I can't keep my cats at all, I will do everything in my power to stop it. I do think there needs to be a massive campaign to educate people on responsible cat ownership | I think it will stay the same as we are a cat loving nation | I feel it will decline but gradually | I think it will stay the same as they are a deeply-entrenched part of the broader cultural psyche in New Zealand. Change happens slowly, due mainly to initial resistance from those opposing new legislation. Laws need to be re-jigged here, undoubtedly, but what will that look like? | I think more and more people will move to inside cats to stop owning cats but I don't think everyone will unless there a law change. Cats are great companion animals and are perceived as more independent and therefore easier to care for than other animals | I hope more regulations will come and ultimately you need to do a course to be able to own a pet | I find Gareth Morgan to be way too extreme with his views and I hope people don't take too much notice of him. I understand things may need to change going forward but this needs to be done carefully as some people just don't like cats and unfortunately will use any excuse to hurt them, especially in rural areas | Kiwis are cat loving people. Just look at the Wellington Cat FB page! I don't think it will change but I feel that people will be more aware of their responsibilities as cat owners | Hard to say. Ownership percentage may reduce as a larger proportion of people are housed in higher density living | It would be nice to think it will change, but I can't see it happening | I think cat ownership will decline a little, then a bit more when registration comes in (owners will see that as purely a fund raising/tax situation)

## Appendix C: Participant Answers (Professionals)

### **What part of the resource did you enjoy the most?**

The predator free nz page | It was all interesting – I liked the style and layout | I enjoyed the easy to follow tabs, clearly delineating the major themes the resource was trying to portray. I like the idea of being able to access easily the information I'm after | Predator Free NZ – Easy read but informative | I really enjoyed reading out the real life stories and experiences – I feel like this makes it relatable to the general public | The whole thing – it provided multiple perspectives, and was not one sided, representing different views well. I like that. As such, the whole site needs to be viewed so readers can consider the full narrative | No one thing |

### **What part of the resource was most memorable to you?**

The visual style – engaging | The first-hand accounts from people who have taken actions to manage cats. I think using real world examples is a great way to engage the general public in any resource | Microchipping section- came with interesting supportive media | The large home ranges of the cats – great to see this mapped | The lovely photos, especially at the top of each page. Some beautiful photos... | Information about the woman from Oamaru with the large catio

### **Did you find the resource easy to navigate?**

Yes | Yes | For the most part yes. I was a little confused initially about the Predator Free NZ tab (i.e. Dunedin, Cats in the halo, Beyond Orokonui) but I figured it out pretty quickly. Maybe those three sub-tabs would be better placed in a drop down menu from the Predator Free NZ tab as opposed to off to the other side? The videos confused things a bit at times (i.e. taking up the whole page as opposed to sitting within the text like the photos did) | Yes, all you have to do is scroll down! And the tabs clearly identify what is covered | Yes, very easy | Not initially. But once I got my head around it, it was easy... just a wee bit of sorting at the start of the user process | Yes, but it took too long for each page to load. About 25s. You will lose too many people if they have to wait

### **What was your favourite type of media in the resource and why?**

The results of the cat gps study – visually easy to see the results | Great pictures, and videos. Testimonials. All required for final impact – can't separate one out | I really enjoyed the photos. They broke up the text well and allowed me to visualise what was being described which I think helped with interpretation. This was particularly true for the 'Catics' section. Seeing images of what the catio described actually looked like was useful | Videos – They are just easier for a user to engage with | I enjoyed the videos | The stories. They were well written and engaging. The odd spot I thought they could be trimmed. I loved the photos too. Like the positives of the chipping with the biscuit provider. Positive. Cool to have the mayor in there and in a nice low-key way... | Photos – attractive

### **What problems did you find?**

None | Can't scroll passed videos | Nothing major. Maybe just some slight punctuation/grammatical errors. Also just as a note, we're not using 'Beyond Orokonui' for our title but have instead adjusted all of our branding to be 'The Halo Project'. This has only happened recently so please don't feel the need to make changes right away if it's a lot of hassle, just thought it would be good to let you know

| None | No problems | It is quite big. Heaps of info, which is all relevant but wonder if some can be pruned back? Orokonui ecosanctuary could be better highlighted in the top map, to centre it | Time uploading pages. English grammar – needs improvement throughout. One particularly bad paragraph is the final paragraph for PF-NZ. Take-home message for each section should be clearer and at the beginning of each section. No harm reiterating it again at the end. PF-NZ page focuses on Dunedin – is this a resource for Dunedin or nationally? If nation-wide, too much focus on Dunedin. Also, Pred-free NZ is a specific initiative (PF=2050) involving the eradication of possums, rats and stoats and this wasn't clearly explained here. Predator-free Dunedin is an initiative that falls under the PF-NZ umbrella. Orokonui Ecosanctuary is not part of PF-NZ

**Would you read this content if you came across it on social media?**

Yes | Yes | I think that I would read it but I'm pretty firm in my stance on cats so I doubt it would be likely to change my opinion | It's a bit lengthy – I think you would only capture people who have an interest on the topic committing to the full read | Yes – very informative | Yes, if it was shorter | Some of it, but I don't spend much time of social media and I'm very familiar with the content, so probably wouldn't read it

**Would you share this content with others?**

Yes | Once edited | Not personally, but I think it would be a good resource to share through the Halo Project social media account (with appropriate permission of course) | Yes | Yes – particularly to people that are interested in this topic | Yes, would post it to the Halo website and FB | Yes, although I am not a big 'sharer' on social media either.

**How did you feel about its entertainment value? Was it interesting to read and did it hold your attention?**

It was very interesting and well presented. It held my attention | Yes – and good for a variety of ages | I enjoyed the stories/first-hand accounts and found it entertaining. I did find that it was a lot of reading and took longer than expected and so in some parts I probably wasn't paying full attention | Yes, I do find the "cats as pests" debate interesting, so this did hold my attention | I enjoyed it however some of the sections were quite long and could be more interactive | Yes it did! And I have a short attention span so that is good going! | It is a nice read (apart from the occasional lack of clarity and poor grammar) with nice images. I think you covered the main issues well, in a non-confrontational way, and as such it is a really good resource. What about providing links throughout to, say, cat-proof fences, catio designs.

**What do you think the overall message of the resource is?**

The time has come to manage cats better in NZ | RCO not eliminating cats | Based on what I've read, I would say that the overall message was 'here's some information about what you can do to manage your cats and now it's up to you to decide'. I didn't feel like there was a single message being pushed on me (i.e. for or against cats) | Cats do require responsible ownership to ensure they do not become pests, your resource highlights this and makes it seem like a reasonable step to the user | Responsible pet ownership and to consider the impact your cat has on the fauna and flora of NZ | Birds (think he means cats here) are part of our community, our families. They are cool. But they need to be carefully managed to ensure they are not pests to others and to have minimal impact on wildlife so that we can all co-exist happily | Excellent. Could emphasise welfare concerns for cats even more strongly, since that's what appeals to people. Great to see a quote from someone about how other animals such as birds and skinks also having the right to live!

### **What did you think about each chapter – did they fully cover each topic?**

I liked all the chapters except the catios page - probably just because I don't like cats | Pretty well. Possibly a more clear statement about living with RCO not without cats and the need for environmental enrichment in all catios | I think all topics were generally well covered. I wondered if presenting a case of someone who kept their cat inside constantly might be a good addition. It's a very different scenario than someone who has the time/space/resources/money to build a catio. I found in some areas that I had to do a lot of reading until the message became clear (i.e. why I would follow that option). Maybe a bullet pointed list or something similar nearer the start of each chapter outlining the benefits of each method would make the information more easily digestible and then the stories/first-hand accounts could be beneath letting the viewer read them if desired | Captured each "why" very well, while giving it more of a story type approach making it easy to read and follow | Yes – perhaps there could be a section on how to build your own catio? Some helpful hints on what to consider? I really liked the diagram of the stray vs feral vs owned – it makes it an easy way for people to understand the differences (as not many people have a clear understanding of this) | Yep. There its enough in there to get the mind working and to have people contemplate... I liked the 'last cat' but as really provided a nice conclusion. Lots for people to think about eh | Apart from the PFNZ chapter (for reasons above), yes

### **Was there anything else you wish was covered?**

More references to the negative impact that cats have on our biodiversity | See above  
Legislative changes required to facilitate a more rapid transition to RCO | There was a lot of mention (from SPCA I think) about wanting Dunedin residents to take responsibility for stray cats they collect but what does taking responsibility for them require? Is there an avenue for those who can't take responsibility for those cats to deal with them (e.g. pass them onto a rescue organisation?) or is it better to do nothing if you can't commit to take 100% responsibility for them? | I'm no expert on the topic so I feel what I learnt was sufficient | Agencies that could provide advice or help. Helpful resources like the NZ cat management strategy | No | I think you could have provided more information about how many birds and lizards are eaten by cats – there is a lot of information on this from NZ. Also how many cats there are, expressed as a density (approx. 225 pet cats / sq km) in suburbia, all with overlapping home ranges. There is info on this in my paper in Biological Conservation 2010. When people think about the possible impact of their own cats on wildlife, they tend not to think about the fact that even though their own cat doesn't catch many birds, there are lots of other cats, and almost all of the catching prey. Disease: you haven't touched on the issue of diseases cats pass on to humans and other wildlife. Toxoplasma has caused deaths in native NZ birds and also Hector's dolphins. Toxo is also emerging as a real health issue in humans, not only does it cause abortions in pregnant women but it has been linked to schizophrenia and the adoption of more risk-averse behaviour. Of course toxo in sheep is also a problem, passed on in feral cat faeces and the cause of abortions.

### **How did you feel about the length of the content?**

Good length | Good | Mostly good. Sometimes felt there was a lot of reading required until the message became clear | It is a bit long – if you could summaries each tab in your "how to use this resource" to quickly cover what each tab will explore it might help with engagement | Overall I enjoyed it; however it could be a little less wordy | Bit long in places. But generally good | It is quite

long, but doesn't have to be read in one sitting. However its length makes it important to have the take-home message for each section at the beginning of the section

**How did you feel about the use of characters and personal stories?**

Makes the overall message personable and believable | Good | Excellent. Makes the control methods seem much more relatable and achievable as well as making the content more engaging | Loved it! | My favourite part! I think real life examples are great as it personalises it for the reader and makes them think about their own animals | Love it. Makes it real. Cemented in normal people. Excellent | Good idea – always interesting to hear real-life stories. Plus see models of good behaviour!

**Do you think there needs to be more information specifically on the effect of cats on wildlife?**

Yes | Perhaps the idea that people have No idea what their cats kill and no idea that their cats roam | I think a sub-tab, nested under the 'Predator Free NZ' tab, outlining the impacts cats can actually have on our native ecosystems would be a good resource to show why these control methods are important | That could be useful, yes | The information needs to be factual and not bias. As you stated, conservationist will give a different view point to say a person invested in animal welfare | Some scientific data to support the personal stories is always a good think I reckon. It reduces the emotion | Yes – see comments above. Most people have a disconnect about cats. They want to protect the 'rights' and welfare of the individual cat, but they don't feel that animals caught by cats should have the same protection.

**How does this piece make you feel about cats?**

I already don't like cats in our environment | I love cats – but I know that we need to do a better job on RCO! | I don't think it changes my opinion. Personally I wouldn't own a cat but I'm more than happy for other people to keep them as pets as long as they do so in a responsible manner | That discussion around the issue should be held more often- however it requires owners efforts also | That owners need to be more responsible – it is up to us to influence behaviour change which should in turn change views on what is responsible pet ownership and any negatives views on cats | That they are a strong friend and companion to many, and that it needs to be recognised when we consider from a conservation management perspective | No different than before – admire them but feel they should be responsibly managed.

**Do you feel like the tone was inclusive (not confrontational?)**

It was very measured and not at all confrontational | Yes (though there will be people who dispute that!) | Definitely. I didn't feel it was pushing any particular message; simply presenting the facts/stories and letting the reader make up their own mind | Yes, it was clear you were a cat owner too and this definitely helped | Absolutely! You did well promoting both sides | Yes. All sides are listened to | Yes

**How did you feel about the way cats were portrayed in this resource?**

A pest in some circumstances, a member of the family in others | Value + damage.... So pretty fair | They were portrayed in quite a positive light in this article as virtually every account was from a cat lover. I don't think there's anything wrong with this as they are beloved pets to a large proportion of NZ's population and it is important that this is recognised. I think working with people (as this resource does) as opposed to against them is the best way to get cats controlled in a way that's going to satisfy conservationists and cat owners/lowers | Fair | In a positive light, however still



outlining the negative effects they have | They were portrayed well. Not their fault for being a cat! | With respect and affection

**Would you like to be able to add to this resource yourself? Through your own stories or perspectives?**

You included the post on the cat and kiwi so no. However I did work at Macraes Flat with DOC and saw firsthand the many cats are in the wild – and not just feral cats | No – only via my edits | Not personally, but I can see merit in integrating some of the work the Halo Project has done (with appropriate permission of course) | I don't feel like that would be necessary on the resource – maybe a social media avenue instead? | Maybe - in terms of legislation and the opinions around this | No personally, but the Halo Project would, yes | I probably don't have any more to add.

**Do you feel that cats should be allowed to roam free in New Zealand and do you have any concerns about roaming cats?**

Cats should not roam free – domestic included. Clearly even domestic cats can have a negative impact on native wildlife | No, and yes | No I think cats should be subject to the same controls as dogs. I have concerns for the safety of indigenous wildlife. I also feel that if we are realistically going to achieve some of the sub-plots of Predator Free NZ (i.e. endangered native birds living freely in our towns/cities) then controlling cats strongly must be undertaken. Just removing the rats, possums and stoats alone is not going to have the desired benefits, we have to think about how we can stop our pets (and feral/stray cats) from killing our indigenous biodiversity | No, cats should be just as under control as our other domestic animals | I believe NZ needs to start thinking about a NATIONAL plan that encompasses some type of containment. It needs to be a national initiative. A behaviour change based on the benefits of containment as opposed to all the negative stats around cats and wildlife. Focus on the positives of pet ownership and how containment can provide benefits for the welfare of your pet | No absolutely not. Cats shouldn't be allowed to free. They should be managed carefully, just as dogs are | No they should not, even though I would greatly miss seeing cats in my neighbourhood

**What do you think is the main reason for people not microchipping their cats?**

They don't have to | Perceived cost and value (i.e. my cat doesn't roam, so why bother) | Either cost or simply not taking appropriate responsibility | Not understanding the importance of it, or concerns with the cost associated with it | Not fully understanding the benefits combined with being lazy | Lack of awareness I'd say | Doesn't occur to them, cost in some cases, don't see the point

**What do you think is the main reason for people not desexing their cats?**

Once again, they don't have to | Costs, and "good to have a litter...." (GARRRRGGGHHHHHHHHH!!!!!!!!!!!!) | Not taking appropriate responsibility | Again, not understanding the importance of it or concerns of the cost associated with it | The cost | Cost and lack of awareness of the positive outcome that results from it | Probably mainly cost. Possibly also idea that it is mean not to let a cat have a litter of kittens (I felt like that when I was a teenager) ie to experience 'motherhood'.

**Do you think people who feed stray cats should be responsible for their health care? Why?**

Feeding stray cats shouldn't be allowed | No – I think we shouldn't have stray cats! If you are a PIC, then there are legal responsibilities that come with that. Problem is there is no enforcement of this aspect of the AWA 1999. If no one is in charge, then veterinarians need a legal provision to euthanase sick and/or injured cats without facing professional repercussions | Yes, feeding animals but not taking full responsibility is simply exacerbating the issue. If these cats are spayed or neutered then feeding them is only going to increase the reproductive rate and have even more devastating impacts for local wildlife. I don't think it should be legal to spay/neuter a cat and then return it to the streets/wild instead of an actual home. We can't do that with any pest mammals in NZ (e.g. possums, stoat), or dogs, so surely we shouldn't be allowed to with predatory species such as cats. I think some sort of change in policy and/or practice is needed in this area | No because it may discourage people from feeding strays, this should be the choice of the individual | Absolutely! People need to realise the harm that this can cause and how much it adds to the problem | No, I don't think so. But I think stray cats should be de-sexed and that Councils should front that cost. We need to stop them breeding | Yes. You state it well: taking responsibility is more than leaving food out.

**How do you see cat ownership moving in the future? Do you think it will change or stay the same?**

Slowly but surely the worm is turning. Microchipping and registration will eventually become mandatory | No – glacial pace of change on this, but it will be different in the future (long game) | I think it will change. Most of the people I know that own cats are realising that their cats can cause significant environmental damage and so they're working to undertake some sort of control program. I know cats aren't included in their target species, but I think that the government is under such pressure to achieve their predator free 2050 goal that some changes may be made to what is legally required of a cat owner | I think with more focus on predator free NZ, dogs and cats will be affected. This might decrease ownership numbers or seriously change what we perceive responsible ownership to look like | I believe that the way forward is to produce and enforce the National Cat Strategy plan. The plan would need to be adopted by all of the Councils and organisations involved | I'd like to see compulsory microchipping. Compulsory de-sexing. Stray cats de-sexed, paid by council, cats controlled so they do not roam beyond their place of residence | I think it will change, but slowly. Cat owners are in the minority and more and more people in communities are engaging in protecting native species. They will become more demanding to protect what they are trying to achieve.

